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PSEUDO-APPENDICITIS AND PSEUDO-VISCERAL DISEASE.

A Clinical Lecture delivered at Cooper Medical College.

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The patient whom I present to your attention this morning furnishes an important object lesson in clinical diagnosis. An error in diagnosis in his case, would be likely to lead to lamentable consequences.

The history of his case is, briefly, as follows: About 10 days ago, when in seemingly perfect health, he developed sudden pain which remained localized in the ileo-cecal region. The pain was so intense that he had a syncopal attack on the street. Accompanying this pain was intense nausea. When he presented himself at my office, the following evidence was elicited by the objective examination. There was marked tenderness at McBurney's point and a circumscribed induration about the size of the thumb could likewise be felt in the same region. Percussion revealed only tympany.

The history of this case presented the typical symptom complex of appendicitis. The acute development of severe pain in the right iliac fossa, coming on in a previously healthy person, accompanied by tenderness on palpation in the same region, with unilateral induration and gastric symptoms, will almost invariably justify us in making a diagnosis of appendicitis. There was one symptom which you will observe was absent in this case, and that was elevation of temperature. You must remember, however, that an elevation of temperature is not constant in appendicitis, many of the most severe cases having a subnormal temperature throughout the course of the affection.

The careful diagnostician would not accept the evidence as furnished by the subjective and objective symptomatology of this case, as sufficient to establish a diagnosis. He accepts this evidence in the light of a theorem, the validity of which he establishes by what is known as differential diagnosis. He asks himself whether other affections can simulate the symptoms of this case. He thinks of the following diseases: indigestion, renal colic, acute intestinal obstruction, acute peritonitis, typhlitis, gall bladder involvement, and typhoid fever. If the subject is a woman, he also thinks of ovarian or tubal disease. These are the conventional affections that are usually quoted by authors, which demand differentiation and the construction of a clinical diagnosis by the process of exclusion.

At this time I will not tell you how we exclude the affections just enumerated, but will at once inform you, that *lumbo-abdominal neuralgia* may simulate, in a most surprising way, all the clinical phenomena of appendicitis. I vividly recall a case[1] which I saw years ago in my practice. The individual presented himself for examination. His case had been diagnosed as one of appendicitis and an operation was contemplated. In the ileo-cecal region, a circumscribed swelling was visible, which was extremely sensitive to pressure. Manipulation of the swelling only increased its proportions. This case proved to be one of lumbo-abdominal neuralgia, and freezing over the sensitive nerves at their exit from the vertebral column caused an immediate disappearance of the pain and presumable tumor.

The recollection of the case just referred to, awakened my suspicion in the individual who is now before us, as it is the second time only in my practice, that I have seen a case of lumbo-abdominal neuralgia simulating so characteristically the symptoms of appendicitis. In the further examination of the present case, I found two other points of tenderness. One was in the lumbar region in the axillary line and the other was elicited by strong percussion of the spinous processes of the first two lumbar vertebræ. The sensitive point in the lumbar region was even more painful than over the point of McBurney, and here, also, a swelling was evident which only increased by manipulation of the sensitive point. If these sensitive points found in this individual were really due to lumbo-abdominal neuralgia, the fact could be readily ascertained by the process of congelation or freezing with the rhigolene spray over the sensitive nerves at their vertebral exit. This was done, with the result that the sensitive points, together with the swellings, disappeared at once as if by magic.

To my knowledge, no writer has yet employed this means of diagnosis. Congelation thus practised has aided me in differentiating many neuralgic affections of the thoracic and abdominal parietes from visceral diseases. It is an indubitable fact to which detailed reference, to my knowledge, has never been made, that neuralgia of the intercostal nerves may be accompanied by visceral symptoms of such prominence that the intercostal neuralgia is overlooked, and treatment is directed toward the probable visceral disease. Such cases, while presenting a varied clinical picture, are frequently analogous, if only atypically so, to gastric, cardiac, renal, vesical, and esophageal affections.

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[1] American Medico-Surgical Bulletin, December 15, 1895.

In many instances the symptoms of intercostal neuralgia in the implicated nerves corresponding to the presumably involved viscus, are either absent or incompletely pronounced. As a rule, however, vertebral tenderness corresponding to the exit of the nerves can be elicited, and when congelation is conducted over the seat of vertebral tenderness during a paroxysm, the latter is nearly always inhibited. In the absence of tenderness, congelation may be conducted for the purpose of excluding a neuralgic affection. It may be safely affirmed that tenderness of the scalp or thoracic or abdominal parietes is dependent, as a rule, not on visceral disease, but on a neuralgic affection of the cervical or dorsal nerves.

Many cases of pseudo-visceral disease can be partially explained by the anastomosis existing between the spinal and sympathetic nerves, as well as by certain concomitant symptoms of intercostal neuralgia.

I will briefly cite the following cases for the purpose of illustration:

CASE I.—Female. Had been treated for dyspepsia, so-called, for more than seven years, without relief. Pain in epigastric region, accompanied by fulness after eating. Epigastric tenderness. Chemical examination of stomach contents, after a test-meal, showed perfect digestion. Vertebral tenderness of lower intercostal nerves. After freezing of the intercostal nerves corresponding to the sensitive vertebræ, pain in the epigastric region could not be elicited by pressure. Symptoms yielded completely only after 20 applications of the spray, and although three years have elapsed since the discharge of the patient, there has been no recurrence of pain. [These cases, which I have denominated *fictitious dyspepsia*, are comparatively frequent. If recent, they yield readily to the action of freezing, but they are equally resistant to treatment if allowed to become chronic.]

CASE II.—Male, physician. Had suffered for many years from pain in the lumbar region on the right side, occurring in paroxysms and simulating the pain of renal colic. An exploratory incision down to the kidney was made by an eminent surgeon of Philadelphia, but with negative results. When the patient came under my treatment, the first and second lumbar vertebræ were sensitive to percussion. Successive freezing of the sensitive vertebræ checked the painful paroxysms.

CASE III.—Male. For about two months patient had been seized at irregular intervals with a severe pain in the cardiac region, and a sense of constriction. The pains radiated down the arms. In brief, the symptoms corresponded with angina pectoris. The case proved to be one of pseudo-angina, for when the region of the sensitive dorsal vertebræ was acted upon by the spray, the symptoms disappeared completely after one *séance*.

CASE IV.—Female. The patient, on account of painful deglutition, was unable to swallow solid food. Examination was negative beyond pain on pressure at certain points in the neck and sensitive vertebræ on percussion. After three applications of the freezing process over the region of the sensitive cervical vertebræ, there was complete disappearance of the dysphagia.

How are we to explain the circumscribed intumescence which was so evident in the ileo-cecal region in our case? You must know, that in certain painful abdominal affections, the abdominal muscles are kept in a condition of involuntary tonic spasm as if they were destined to protect the underlying structures from injury. This spasm is not always diffused; it is frequently localized over the part which is the seat of pain. If there are painful points in the course of a nerve, as commonly occurs in neuralgia, the tension of the muscle is limited only to those points. It is a fact well known to clinicians, that when the seat of pain is to be determined over the abdomen, it is recognized by the spasm of the muscle which manifests itself at once by manipulation of the affected area.

At the present time, I am treating a young girl who came to me for advice for a presumable tumor in the left breast. Accompanying this supposed growth are shooting pains in the breast. The case proved to be one of intractable intercostal neuralgia, and the supposed growth was only the rigid pectoral muscle; for when the neuralgic pain is inhibited by freezing the sensitive dorsal vertebræ, the tumor disappears. I have seen many similar conditions of cases of supposed mammary tumors, and they have nearly always yielded to the congelation treatment.

In this morning's hour, I have endeavored to establish two things: First, that circumscribed tonic muscular contraction is a frequent accompaniment of neuralgic affections; second, that congelation is an important aid to diagnosis.

IS ELECTRIC LIGHT INJURIOUS TO THE EYES?

By WM. ELLERY BRIGGS, M.D., Sacramento, Cal.

Read before the Medical Society of the State of California.

The pressing demands the *fin de siècle* civilization makes upon the organs of vision requires a most careful consideration of the question of artificial illumination, in order that the eyes may meet the excessive work with the least possible harm. The subject has not received the general attention that its importance deserves.

Children of the present generation have vastly more tasks imposed upon their visual organs than the young of any previous era, and still we hear clamoring on all sides for more cramming of the poor children with all possible studies. Many people seem to think that children during their few years of public school life can learn something of everything—the inevitable result of such a policy is that nothing is learned well of anything. These remarks touch upon a phase of the question not, perhaps, coming under the title of this paper, yet the close relationship between the quality of the illuminant and the excessive use of the children's eyes compels me to express my disapproval of the growing tendency of our educational system.

The rapid transition from the tallow dip of our fathers and the several succeeding methods of artificial illumination to the adoption of the electric lights of the present day illustrates in a single field of activity the progress from the primitive to the complex modern civilization. Whether or not the changes are always improvements remains for us and for future generations to determine. It is essential that experts in each department of science shall point out in what respect the innovations are beneficial or harmful, and in what way the greatest good can be secured, and the evil effects obviated.

The public is, in my opinion, greatly in need of correct information in regard to the injury resulting from the improper use of electric light, and how it may best be avoided. To illustrate some of the injurious results of electric lights used improperly, I will report some cases that have come under my observation during the past few years:

CASE I.—E. J. G——, a robust man in middle life, consulted me in regard to defective sight that had existed for over a week. Immediately after looking at a powerful search light for a few moments the patient noticed visual disturbance. For several hours after the exposure he saw colored lights of various hues constantly before the eyes, and when these sensations had disappeared a haze or fog seemed to be constantly before them. Upon examination the eyes were found to be emetropic with the vision of the right eye two-thirds and of the left five-sixths normal. There was no distinct scotoma or contraction of the visual field. A slight pericorneal injection existed, and a mild catarrhal conjunctivitis was present. The media were clear, the border of the optic discs somewhat indistinct, and the retina and retinal vessels slightly clouded by inflammatory exudate. The ophthalmoscopic picture was about the same in each eye. The patient was ordered to abstain from reading; colored glasses were advised to be worn in all bright light; hot water fomentations were applied to the eyes for an hour daily, and 15 grains of iodide of potash was given three times a day. Gradually the retinal haze disappeared, and at the end of ten weeks the fundus and the vision were normal.

CASE II.—R. E——, a healthy man, æt. 32, consulted me on account of pain, photophobia, and inflammation of the eyes. He had not had any eye symptoms previous to three weeks ago, when he began working in an electric power-house under the bright light of several arc lights. He had taken no precautions to protect the eyes, in fact he had on numerous occasions looked directly at the brilliant lights. The ocular conjunctiva of both eyes was red and somewhat edematous, giving the appearance of eyes suffering from severe snow blindness. The pupils were contracted and inactive. The fundus was normal and distant vision was perfect. The patient was ordered to avoid all bright light for a few days; ice water compresses were applied for half an hour twice daily; boracic acid lotion was used to wash the eyes out twice a day, and colored glasses were worn. In two weeks the eyes had regained their normal condition. He was urged to wear smoked glasses in future when working in the glare of electric lights.

CASE III.—Mr. McC—— came to see me complaining of deep seated pain in both eyes. This was particularly distressing, after working under the light of incandescent lamps which he recently introduced into his office. For many years he had done much reading and writing each night by artificial light. A moderate conjunctival inflammation was all that could be found. The vision and refraction were normal. A mild astringent lotion and cold water compresses were ordered, and a change in the character of the illuminant advised. The patient abandoned the incandescent lights for a properly adjusted student lamp, with the speedy relief of all the symptoms.

CASE IV.—Clara H——, æt. 15, a high school pupil, consulted me on account of constant aching in both eyes. A mild catarrhal conjunctivitis and myopia of 3.5 D. were found. With correcting glasses vision was normal, and they were ordered for constant use. The patient was studying several hours daily under the light of incandescent electric lamps with clear glass globes. Frosted globes were ordered for the lights in the living room, and the reading light was so placed that good illumination was secured without the rays striking the eyes. Cold water compresses and a mild astringent lotion were ordered, and in ten days the eyes regained their normal condition.

Artificial light to be free from injurious effect upon the eyes must be strong enough to give distinct images; it must not be excessive; it must be as near in quality to dispersed daylight as possible; it must be steady, and the intense glowing source of the light must be so protected that the eyes do not rest upon it.

No artificial light has yet come into use that fulfils all of these demands. Incandescent electric lights can be made to meet as many of these requirements as any form of illumination, but as they are generally utilized they fall far short of doing so. The principal objection to the incandescent light in general use is the harmful influence of the intensely glowing filament. The injurious influence of these glowing filaments cannot be avoided when the lamps are used with clear glass globes. Every time the eye rests upon the light for an instant an intense irritation of the retina is caused, and an after image is projected before the eyes for several moments. This must work an injurious effect upon so delicate and sensitive a structure as the retina. Indeed, it is a common experience for me to find people who are much exposed to such lights complaining of asthenopic symptoms, for which no abuse of the eyes or refractive error can be found to account. Such patients, as a rule, soon regain normal use of the eyes when the light has been corrected and the eyes rested for a short time.

It is difficult to see how the lights can be adapted to general illumination while obviating their harmful effect. When frosted globes are used with the ordinary sixteen candle power lamps, they reduce the light so as to make it insufficient for fine work. Were thirty-two candle power lamps used with frosted globes a very nearly perfect artificial illuminant would be obtained, but very few people will or can afford the expense entailed by the loss of about 50 per cent. of the light even to preserve their eyes from harm If this cannot be done it would be better to do with much less light and have it concentrated at the place needed for close work.

Undoubtedly a good gas light properly placed, or in the form of a portable and fitted with a Welsbach burner, is much better for general domestic illumination than the incandescent electric lights as they are used at present. Even the light of the Welsbach burner needs protection so that the eyes cannot rest upon the intense glowing mantel. This can be done and still leave a light sufficiently strong for fine work if it is properly placed.

CASE V.—This case does not properly come under the title of this paper, yet as it is of interest in this connection I will take the liberty of reporting it here. J. M. C——, æt. 29, consulted me for deafness of the left ear and dimness of vision of the left eye. Two days previously he accidentally struck his left auricle against a guy wire which was holding a temporary conducting wire carrying a 500 volt current. He was immediately rendered unconscious and fell to the ground, thus breaking the connection. He regained consciousness in a few moments, but continued in a more or less dazed condition for several days. When I saw him, two days after the accident, his hearing in the left ear was totally destroyed. The auricle was very red, almost to the stage of being blistered. The drum membrane had a dull appearance, but was otherwise unchanged. The right ear was normal. The vision of the right eye as well as the refraction and the fundus were normal. The media and the refraction of the left eye were normal. The vision was two-thirds. An ophthalmoscopic examination revealed pale disc, but the arteries were noticeably contracted, otherwise no change could be seen. The visual field was not contracted. There was constant tremor of the hands and feet, which was most marked on the right side. He complained of difficulty in breathing, and spat blood on several occasions. He suffered from almost constant nausea, anorexia, and insomnia. The patient took bromides and iodides for several weeks with no perceptible effect, and when seen, two months later, his hearing and vision had not improved, and the agitation of his hands and feet persisted.

The shock destroyed the function of the internal ear of the left side and caused serious disturbance to the central nervous system, but did not impair the function of the visual centers. The injury to the left eye was undoubtedly due to the effect of the shock to the optic nerve and its vessels on the left side.

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THE DIAGNOSIS AND TREATMENT OF DIPHTHERIA.

By A. M. Henderson, M.D., Sacramento, Cal.

Read before the Sacramento Society for Medical Improvement.

One can scarcely make a mistake in the diagnosis of a case of pharyngeal diphtheria in the severe stage, but, in mild cases, in the early stage of a severe case, and in cases beginning in the larynx, serious mistakes may be made. In mild cases these mistakes may be serious by proper measures to prevent the spread of the disease being neglected; in other cases the mistake may be fatal to the patient. In most cases the physician will be able to satisfy himself as to the diagnosis after twenty-four hours' clinical observation. Cases, however, will be met, which will require a longer time, and still others in which he will always remain in doubt if he rely on the clinical examination alone. Bacteriology has rendered valuable service in the diagnosis of diphtheria. The bacteriological examination may err on either side, as the bacilli may be found in cultures taken from the throats of persons having no symptoms of diphtheria, and may, at least at one examination, show a negative result in undoubted cases of pharyngeal and laryngeal diphtheria. These facts do not detract, materially, from the importance of bacteriological diagnosis, as it is used only to confirm the clinical diagnosis, and the errors are exceptional. The two methods should be used together.

In making an early diagnosis we must rely largely on the appearance of the throat. The membrane of diphtheria generally begins as a small patch on one or each tonsil. This deposit is usually at first grayish white in color and film-like in density. It gradually becomes more dense and spreads in a characteristic manner from the original seat to the faucial pillars, uvula, and lateral pharyngeal walls, changing in color to a gray, green, brown, or even black. Exceptionally the exudate may begin in the crypts of the tonsils, appearing in various spots at the same time. These usually coalesce, forming the familiar membrane, but they may remain isolated closely assimilating follicular tonsilitis.

Diphtheria varies so greatly in its mode of onset and constitutional symptoms, that these factors assist but little in the diagnosis. The onset is generally more gradual and there is less fever in the beginning than in other inflammatory affections of the throat. The soreness in the throat and the difficulty in swallowing may not be complained of in the early stage Marked toxemia, with slight fever, a quick and feeble pulse, occurring later in the disease, are somewhat diagnostic, and, finally, the development of post-diphtheritic paralysis is positively diagnostic. The exposure of the patient to infection is often a very important consideration in the diagnosis of diphtheria. The prevalence of the disease in a community is also to be considered, even if the history of direct exposure is not obtained. Cases of scarlet fever in which the throat symptoms are severe and appear early, occasionally simulate diphtheria. In these cases we must rely largely on the diagnostic symptoms of scarlet fever and on the bacterial examination. In primary diphtheria of the larynx, the diagnosis can be made positively only by bacteriological examination, unless the membrane can be seen with the laryngoscope.

A bacteriological diagnosis can often be made within a few moments by staining the cover-glass smear taken directly from the throat, although it is more satisfactory to use the culture as the growth of the bacilli is itself diagnostic. The Klebs-Loeffler bacillus is rod shaped, about the length of the tubercle bacillus, but double the breadth. The morphological appearance varies, a single culture even showing difference in the size and shape of the bacilli. They may be straight or slightly curved and often have clubbed-shaped ends. The bacilli in the stained preparation generally have a segmented appearance. The diphtheria bacillus develops at a temperature of between 78° and 110° F., growing in gelatine as well as in other media The medium must be slightly alkaline. Loeffler's blood serum, consisting of three parts beef or mutton serum and one part bouillon, to which is added 1 per cent. peptones, ½ per cent. sodium chloride and 1 per cent. grape sugar, is the most favorable medium. If this medium, properly prepared in a tube, be inoculated with the bacillus and maintained at a temperature of 98° to 100° F., for eighteen to twenty-four hours, a large number of superficial grayish white smooth colonies will develop. These differ in appearance from the oft accompanying colonies of streptococci which are smaller and transparent, resembling dew drops After two days' growth a thick whitish exudate will form on the tube innoculated with the diphtheria bacillus. One acquainted with the appearance of the growth can quite certainly diagnose diphtheria from its appearance. The bacillus stains most favorably with Loeffler's alkaline methylin blue solution, a mixture of 30 parts alcoholic solution of methylin blue and 100 parts of 1:10,000 watery solution of potassium hydrate.

The bacteriological examination may fail to give positive results, late in a pharyngeal case, when antiseptics have been used, and early in a laryngeal case when the growth of the bacilli has not extended to the pharynx; in other cases it is not at all likely to fail.

The pseudo-diphtheria bacillus may be confused with the true form. Roux and Yersin have expressed the opinion that this is a non-virulent diphtheria bacillus. The pseudo-diphtheria bacillus is not likely to occur in a case clinically suggestive of diphtheria. It is not the germ which causes the condition of the throat known as pseudo-diphtheria, a confusing nomenclature, as this condition is generally due to streptococcus infection.

Much can be accomplished in diphtheria by way of prophylaxis. A complete quarantine should be established for every positive or suspected case. This should be maintained for at least two weeks after the membrane has left the throat, and in severe cases for three weeks. The length of time during which the germs may remain in the throat of a patient after recovery is very indefinite. Most often they disappear in one or two weeks, but they may persist for three or four months. Children in the house of a diphtheria patient should not be allowed to mingle with other children. The disease becoming an epidemic, the schools should be closed. The funeral of a person having died of diphtheria should never be allowed to be public. During an epidemic every throat should be guarded carefully, and as soon as an exudation appears on the tonsil the patient should be isolated. When a case occurs in a family, unless it be very mild, every child of the family should be given an immunizing dose of antitoxin. Those in attendance on a case of diphtheria should use every precaution to destroy the bacilli discharged from the nose and mouth of the patient. Pieces of surgeon's gauze or similar material should be used to cleanse the nose and mouth, and should be destroyed immediately after use. Special attention should be directed to the clothes, toys, furniture, and instruments used in the throat. In dry condition, in pieces of membrane, or when deposited on furniture, the bacilli may retain the power of developing for three or four months. They retain this power in spite of such external influences as temperature and sunlight.

Active treatment may be considered under three heads—local, sustaining, and specific. It has been well demonstrated that antiseptics cannot be used in strength sufficient to destroy the bacilli, and where a thick exudate is present the local applications do not reach the germs on its lower surface. The purpose of local treatment must be to maintain cleanliness, flush the pharyngeal cavity, and to assist in getting rid of the membrane. Alkaline solutions and astringents, especially the iron preparations, have been used locally with the idea of dissolving the membrane and preventing the absorption of the toxic products. It has been a question with me as to the advisability of forcibly following out a systematic course of local treatment where the child is weak and opposes the same with all its strength. When the patient is tractable, a gargle of some mild antiseptic, carbolic acid 1 to 2 per cent., or bichloride 1:10,000 is serviceable. Where the nose is involved, it is well to douche it with 1 per cent. salt solution.

The patient should be kept in bed throughout the attack and in severe cases for some time during convalescence. Plenty of fresh air must be allowed. In cases among children, milk is to be relied upon chiefly for food. It may be necessary to force feeding by gavage. In the later stage of the disease, the tube may be forced through the nose. This method is especially useful in cases after intubation.

Considerable objection has been made to the use of alcohol, but I believe it should be given in all cases where prostration and feeble pulse are present. Strychnine is also a valuable stimulant in this condition and should be used in large doses.

Calomel fumigations are a means of local treatment used in laryngeal cases. The patient is placed beneath a tent. A simple apparatus consisting of an alcohol lamp, with a bowl for the calomel a little above the flame, is used. About 10 or 15 grains of calomel are vaporized every hour or two, the treatment being commenced at the first suggestion of extension into the larynx. After the calomel has been vaporized the tent should be opened and the room thoroughly aired. Nurses should be careful not to inhale the vapor. I have seen marked improvement following this, but I should not advise it to the exclusion of specific treatment. Of the two surgical procedures, intubation and tracheotomy, for relief of stenosis I would advise intubation. Neither is likely to succeed unless skilful and constant attention can be given the patient after the operation.

To Behring, Kitasato, and their colaborers, and to Roux are due preëminently the credit for the development of the serum treatment in diphtheria. Early in 1892, Behring and Kitasato published reports demonstrating the power possessed by the serum of immunization against the innoculation of diphtheria in animals, and of the cure of the disease when produced by innoculation. Roux, in the same year, suggested the use of the serum of the horse, as in the larger animals the strength of the serum could be increased and a more liberal supply obtained. The serum was first tried in the hospitals of Berlin in 1893, and Heubner made a report to the International Congress held at Rome, in March and April, 1894, of cases treated with it. In August, 1894, the serum was first placed on the market. In September of 1894, Roux made a report of cases to the Congress held at Buda-Pest. Both these reports show a reduction in the death rate.

During the four years intervening between Heubner's report and the present day, the remedy has been tested by the authorities of all civilized communities and all reports show a reduction in the number of deaths from diphtheria, when considered in relation to the population and relatively to the number of cases of diphtheria. The promises given by the experiments of the scientists have been fully realized by the clinicians.

The question whether the antitoxine chemically neutralizes the toxine or renders the animal cells resistant to the toxines has not been positively settled. However, no fact can be more satisfactorily demonstrated experimentally than that antidiphtheritic serum both immunizes animals against the detrimental influences of diptheritic toxines when generated by the germs within the body and when germinated in a culture medium and subsequently injected into the body. Control experiments to meet every conceivable objection have been made. It has been established that the unmodified serum of animals naturally immune to a special disease will not confer immunity upon another animal, that the serum of the blood of the horse will not immunize animals against or cure diphtheria already existing in another animal. Control experiments have also been made with the antiseptics used to preserve the antitoxine, and they have been shown to have no effect on the experimentally-produced disease.

The serum drawn from different horses varies so greatly that a quantitative measurement is not satisfactory; accordingly it is measured by its strength, the unit being an arbitrary one, and representing the amount of serum required to overcome the effects of a given quantity of the toxine when injected into the guinea pig. Every time the serum is drawn from the horse its strength is measured. The improvement which has been made in the serum has been entirely in the increase of its strength, until at the present time a serum of 750 units to the cubic centimeter has been placed on the market.

The dose of antitoxine is, for immunization, from 100 to 1,000 units, according to the age of the person; for the cure of the disease, from 1,500 to 3,000 units, according to the stage of the disease and the virulence of the attack. If no improvement is noticed in from 18 to 24 hours, the dose should be repeated. During the early use of antitoxine, doses ranging from 500 to 1,000 units were given. These were too small and the results were by no means as satisfactory as they have been since the use of the larger doses. In all reports, the death rate increases uniformly with the reported delay in time before the use of the antitoxine.

Let statistics show what they may, that which appeals to the general practitioner, who meets a limited number of cases of diphtheria, is the rapid modification of the course of the disease in a case which, under previous methods, he would have expected to have been extremely severe. The change in the general and local symptoms may be noted in 12 to 24 hours. The temperature is reduced, the pulse becomes slower and stronger, and the nervous symptoms are modified. The local changes are quite as marked, the membrane ceases to spread and soon begins to loosen, the nasal discharge diminishes, and the patient soon becomes able to breathe through the nose. In laryngeal cases, the signs of inflammation and stenosis soon subside, the membrane loosens rapidly and in intubated cases the tube may be removed very much earlier than under previous methods of treatment.

Urticaria and pain in various joints often follow the antidiphtheritic serum treatment. I have noticed similar results from other serums and they are quite likely due to the serum and not to its modifications. Three or four deaths have been reported to have followed injections of antitoxines. In these cases the evidence has not been sufficient to determine that antitoxine was the cause of death. There is also reported one death which occurred suddenly while the physician was preparing his syringe. Fright from the diagnosis of diphtheria, shock from the insertion of the needle, entrance of bubbles of air into the circulation, and the carbolic acid used to preserve the antitoxine have been cited as probable causes of death in these cases. Deaths resulting from affections of the heart and kidneys during the course of the disease or in convalescence, post-diphtheritic paralyses and albuminuria which occur as sequelæ to cases of diphtheria in which antitoxine has been used, can by no means be attributed to the treatment, as they were found in a much larger percentage of cases treated under previous methods.

A remarkable reduction in the death rate of cases requiring intubation or tracheotomy has followed the introduction of antitoxine. This is due to the fact that it is not necessary to retain the tube in the larynx for so long a time, and that the membrane does not extend to the bronchi. No claim is made for antidiphtheritic serum to overcome the effects of streptococci in mixed infections, or in streptococcic Infection without the diphtheritic infection.

During the first half of my service in the New York Infant Asylum, an epidemic of diphtheria prevailed among the inmates. The asylum is conducted on the cottage plan, and one might think that under such conditions, with rigid quarantine, the epidemic could have been stopped. More than half the inmates had the germs of diphtheria in their throats and all efforts to check the disease proved futile until finally all the children were given immunizing doses of antitoxine. During the five days preceding the first general innoculation, nine cases developed in the institution. During the four weeks following only one case of diphtheria developed. Between the twenty-eighth and fortieth days after the innoculation, a period of twelve days, 5 cases developed. A second general innoculation was made. After this the institution remained free from diphtheria for a period of four and one-half weeks, and only an occasional case developed later. At the first innoculation 224, and at the second 245 children were immunized. No serious ill effects followed these injections. Similar experiences have since been reported in other institutions.

I shall now briefly refer to a few cases to illustrate statements made in this paper:

CASE I.—In the absence of a resident physician of the asylum in New York, I was called in consultation to see a child in the neighborhood. The physician was a gentleman doing a large general practice. He had been in attendance three or four days, having diagnosed the case as tonsilitis and was very much alarmed at the development of laryngeal symptoms with marked prostration and severe general symptoms. Antitoxine was then a very scarce article. We immediately telegraphed for it, and prepared to intubate if the symptoms did not moderate. On the return of the resident physician that evening, he intubated and administered antitoxine. Whisky and strychnine were used freely for stimulation. In 48 hours the tube was removed and the child recovered; This case illustrates two points: (1) The likelihood of diagnosing diphtheria as tonsilitis and the serious results which may follow. (2) The prompt recovery of an advanced case extending to the larynx after treatment with antitoxine.

CASE II.—A piece of membrane from the throat of a child was sent me for microscopical diagnosis. On receiving the specimen I made a cover-glass smear in which the bacilli were typical and so reported. I learned later from the gentleman who sent the specimen that the child died, Antitoxine had not been administered until too late because one physician in attendance would not accept the diagnosis of diphtheria and had little faith in antitoxine. This is an example of diphtheria progressing to a fatal termination under a mistaken diagnosis. Here the mistake of relying solely on clinical examination was made.

CASE III.—A child 3 years of age developed symptoms of laryngeal diphtheria in a ward of the asylum. The resident refused to diagnose or treat the case as diphtheria until the diagnosis was confirmed by bacterial examination. On the third examination and the fourth day of the disease, the bacilli were found. Antitoxine was administered in the small doses used three years since. The child died. In this case the mistake of depending solely on a bacteriological diagnosis was made.

CASE IV.—S——, aged 11 years. Seen August 5, 1897. Pharyngeal diphtheria fourth day. Thick exudate on both tonsils, posterior pharyngeal wall and uvula. Nasal passages were obstructed, prostration marked. Antitoxine, 2,000 units, injected at 5 P. M., whisky and strychnine administered by the mouth. Hydrogen peroxide (Marchand's) applied by sprays to the throat. The child was so weak at 9 P. M. that I directed the mother not to raise her for any local treatment. August 6, morning, child stronger, throat swabbed with a solution of chloride of iron. During the day pieces of exudate were removed. In the afternoon I administered 1,000 units of antitoxine. August 7, morning, a large piece of exudate came away. It was very thick and was a cast of the posterior pharyngeal wall. Exudate reformed and another dose of 1,000 units was given. Recovery was uneventful. Two of the remaining three children of the family had small patches similar to follicular tonsilitis in their throats. I gave each of the three children antitoxine and they showed no further symptoms of the disease. (This case was referred to me by Dr. G. L. Simmons, who saw it but an hour before the antitoxine was administered.)

CASE V.—Irma F——, age 8, treated with Dr. Huntington, December 10th, 12 M. Child drowsy, pulse 160, temperature by the mouth 103.4° F., mouth-breathing, nose being obstructed. Exudate on both tonsils thick at the edges, film-like on the pharyngeal wall. Antitoxine 2,000, calomel 2 grains in broken doses. 5 P. M., temperature, rectal, 104°, pulse 160, respiration 40. Throat unchanged, child delirious and restless, had refused nourishment, child became extremely frightened by an attempt to make an examination of the throat and local treatment could not be applied. Directed milk to be given regularly, also brandy. 9 P. M., general condition improved, bowels had moved freely. December 11, 8 A. M., pulse 140, temperature 102, throat clearing, general condition improved, throat swabbed, culture and microscopical examination were positive. December 12: Throat cleared by swabbing. Recovery prompt. One of the remaining three children of the family developed diphtheria. Antitoxine was given promptly and no severe symptoms developed. The other two children were given immunizing doses and showed no signs of diphtheria.

CASE VI.—Lottie D——, age 8. Diphtheria, pharyngeal. Child taken sick November 1st. Dr. W. A. Briggs was called November 2d, and referred the case to me on the same day. Prostration was marked and nervous symptoms severe. 2,000 units antitoxin given in the afternoon. Local application of hydrogen peroxide (Marchand's) and ferri subsulphate solution. Child could not retain any nourishment on its stomach. November 3, morning, general symptoms slightly improved. 1,000 units antitoxine, exudate being still thick on the left tonsil. November 4, exudate loosened, but did not disappear entirely for several days. On November 10, urticaria appeared. Pain in joints also followed use of antitoxine.

I refer to these three cases as the physicians mentioned made the original diagnoses and noted the severity of the cases, and the recoveries were prompt. Dr. W. E. Briggs and Dr. F. M. Reith saw a case with me at the Foundling's Home, which we all suspected to be diphtheria. I treated the case accordingly, giving 2,000 units of antitoxine. The case proved, on microscopical examination, not to be diphtheria. Other than the expense of $4.50 and an extra trip to the home, no harm was done.

In conclusion, I would again emphasize the following points:

1. Delay in diagnosis in a case of diphtheria is dangerous.

2. A more serious result may follow mistaking diphtheria for tonsilitis than the reverse.

3. Antidiphtheritic serum has been proven to be a specific in experimental diphtheria in animals, and the great majority of the profession accept it as such in diphtheria in man.

4. To be efficient, antitoxine should be administered early and in full doses.

212 J street.

POST-OPERATIVE TREATMENT.

By T. W. HUNTINGTON, B.A., M.D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal.

Read before the Sacramento Society for Medical Improvement.

There will be presented to you this evening a few general considerations bearing upon the management of patients who have sustained injuries, or who have undergone operative treatment.

Recently human ingenuity has exhausted itself in perfecting surgical *technique* in its broader relation to prophylaxis as well as its more specific bearing upon methods of procedure. You are perfectly familiar with the record of achievements and triumphs which, during the past two decades, have won for the art of operative surgery recognition that had been denied it during the centuries preceding. Let us now turn from the more inviting annals of conquest to consider a few of the common-place incidents in the post-operative career of surgical patients, exigencies that are of frequent recurrence, and to which sufficient attention is not always accorded.

It will be discovered that there have crept into this department of surgical work, errors of commission as well as of omission. In some respects we have relied too implicitly upon the law of precedent, and again we have failed to accept experience as our safest guide. Here let me implore you to recognize the most serious obligation assumed by the surgeon as well as the physician: the obligation to establish a perfect mastery of minor details. This suggests routine, a role that is at once wearisome and undramatic, and a reward that often finds its only realization in a clear conscience. It was obedience to this injunction that made Napoleon Bonaparte the master spirit of his time, and without implicit observance of its requirements no great undertaking has ever been conducted to a successful issue.

First among conditions which demand close attention and skilled management, is that of surgical shock. This subject was recently very fully and ably presented to this Society by Dr White (*vide* MEDICAL TIMES, Vol. xi p. 341), and what I have to say now will be simply a review of the main points alluded to by that gentleman. That degree of speed in completing an operation which is consonant with perfect thoroughness, is an important factor in lessening the amount of shock. This is largely due to the fact that the patient is subjected for a shorter time to the depressing effect of the anesthetic. There can be little doubt that to the secondary effects of the protracted exhibition of ether may be attributed some of the gravest complications which are included under this general term. The continuous exposure of a considerable unprotected area is another matter worthy of note, as related to the time occupied for the operation. The temperature of the apartment, unfortunately, cannot always be maintained so as to insure the comfort and safety of the subject. Accordingly this fact should add its weight in leading the operator to avoid unnecessary delay.

When there has been a very considerable loss of blood, the subcutaneous injection of normal salt solution is of immense advantage. From three to five pints of saline solution is readily introduced by this method, and will often recall the sufferer from what would otherwise prove a state of fatal collapse. In milder states of shock, the exhibition of strychnine, atropine, and alcohol will prove beneficial. Shock is frequently enhanced by the nausea attendant upon the anesthetic, more especially ether. The best known agent with which to meet this incident is black coffee administered *per rectum*. The early application of external heat is invaluable in combatting shock, and is so generally in use that I only refer to it for the sake of sounding a note of warning. Once in my own experience, and many times from the hands of other surgeons, I have been called to treat extensive burns, which were induced by superheated bottles or other appliances, which had been placed against an unprotected surface while the subject was still unconscious. An accident from this source is a most unfortunate incident, and recovery from it is liable to be deferred far beyond the time required by the operation which was the cause of it. Moreover, in my opinion, it might, under certain conditions, afford a pretext for a most annoying suit for personal damages. So much importance is attached by me to this matter that I peremptorily forbid any object to be employed for this purpose whose temperature is above a very moderate degree.

Alleviation of pain consequent upon operative procedures is a subject worthy of careful consideration, and should demand closer study than is usually accorded to it. Primarily we ought to discriminate as carefully as may be between the various causes of pain, and so direct our efforts with the highest possible degree of intelligence. I am fully convinced that the indiscriminate and oft times unnecessary use of morphine is to be condemned in terms that admit of no misunderstanding. It is true that the distress of the first hours may, as a rule, be safely and humanely met and overcome by a small amount of this drug, administered hypodermically; but the ordinary uncomplicated operative case which seems to require the repeated or continuous use of an anodyne, should be subjected to the closest scrutiny. Relief in such cases may often be obtained by change of posture, or readjustment of a faulty relation. Again, the loosening of a bandage which has been indifferently or unskilfully applied, will meet every requirement. In passing, permit me to remark that the art of bandaging, whose essentials consist in maintaining equable and reasonable pressure over a given area, seems, generally, to have found unworthy exponents in our schools and among our teachers. The local application of heat or cold will be found efficient in certain cases, and the production of sleep by a resort to some of the milder hypnotics offers a most rational and salutary escape from weariness, which is a prolific source of annoyance and discomfort.

The reëstablishment of normal activity of the bowels has an important bearing upon the welfare and prospects of post-operative cases, especially those in which the abdominal viscera are involved. Usually the alimentary canal has been emptied, as a preliminary measure. There ensues a period of inactivity during which there accumulates a variable amount of offensive material which in the end constitutes *per se* a positive menace to the health of the patient. If the subject be robust this may be evacuated spontaneously, but in a large proportion of cases resort must be had to artificial aid. The time of entering upon this rather important undertaking will be governed by the requirements of the case, though as a general rule it should not be postponed beyond the third day. For the accomplishment of this purpose, a remedy which will ensure thorough though mild catharsis, should be selected. Enemata, though much in vogue, are of uncertain efficiency and unreliable. The simple unloading of the lower bowel fails to meet the actual requirement, and this step, where taken, should be followed very soon by a more heroic measure. My own preference, in a large proportion of cases, is for small, rapidly repeated doses of calomel, from one-tenth to one-half a grain, until the requisite amount is given. This is to be followed by drachm doses of epsom salts, repeated every half hour, until the desired effect is produced. The employment of enemata through the agency of the long rectal tube will, in certain cases, prove an excellent auxiliary. Very recently a writer of authority has advocated a procedure during operations for septic peritonitis which doubtless possesses decided merit. By means of an appropriate needle and syringe he introduces into the lumen of the small bowel a solution containing an ounce of epsom salts. The needle puncture is then closed by a single Lembert suture. By this means the author claims that the danger of vomiting is avoided and early catharsis and drainage is secured.

To the question of diet in this relation, very considerable interest and importance attaches. There is an apparent tendency during the first twenty-four to forty-eight hours succeeding important operations to over-feed rather than to under-feed. It is a very safe rule to give the stomach almost complete rest for eighteen hours after the administration of an anesthetic, and to feed very lightly for a much longer period. The demand for liquids, which is often imperative, may be met by ice, small amounts of ice water, or by what I deem preferable in most instances, small quantities of hot water, Should the exigencies of the case demand stimulation and nutrition at an early period, rectal nutrient enemata will fill every requirement, without the risk of provoking nausea and vomiting, and the miserably depressed condition that is entailed thereby. The normal appetite having asserted itself, a most systematic dietary, as regards materials and time of administration, should be insisted upon. Meddlesome, irresponsible feeding is clearly harmful, and cannot be too harshly interdicted.

The next subdivision of the subject is one of extreme importance and to it I invite your close attention. I refer to the matter of external applications to which resort is frequently had before as well as after surgical steps have been instituted. There is probably no surgeon living who has not from time to time been embarrassed and annoyed beyond measure, by being confronted by a patient whose skin, at and near the affected area, has been placed in a most unfortunate condition for operation by the preliminary application of hot fomentations, poultices and blisters. The consequence is a skin so thoroughly parboiled, disintegrated and infected, that asepsis and surgical cleanliness cannot be obtained by any known process.

In 1887, before the State Medical Society, as chairman of the Committee on Surgery, I had the honor to read a paper[1] entitled "The Disasters of Surgery." In that communication I saw fit to protest vigorously against the conventional use of the poultice, in the following language: "In lieu of a remedy which offers an intelligent and the only radical relief where a throbbing, distended and indurated surface is under observation, a makeshift, time-serving policy is adopted, a poultice ordered and the vicious process is spurred on to the accomplishment of its devilish purpose. If the signs of the times be not misleading, we may reasonably hope that the day is not far distant when the poultice, with its multiplicity of stenches and its slippery, slimy nastiness, will be forever discarded from the surgeon's armamentarium."

Considering the time of its utterance this was a tolerably radical arraignment of a then accredited procedure. To-day, after twelve years of close observation and active experience, I see no reason to recede from the ground I then occupied. Heat and moisture it must be conceded have a place among rational surgical measures, but in my opinion the application of dry cold, through the agency of the ice bag or coil is productive of better results in a vast majority of cases.

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[1] Transactions Medical Society, State of California, 1887, p. 64.

I have formulated the following rule (a rule which probably has its exceptions) for my own government in the employment of heat and cold. Heat may be used with advantage where the condition eliciting it does not depend upon bacterial infection. Cold should always be employed where germ infection is present or where sepsis from the nature of the case is liable to intervene. To illustrate briefly, I employ hot lotions in the presence of an injured joint, or of a simple fracture where serous effusion or blood extravasation are prominent features. Cold is the remedy *par excellence* in the case of a diseased appendix.

426½ J Street.

SUPRAPUBIC VARICOCELE-ECTOMY.

By C. R. Krone, M.A., M.D.

Read before the Alameda County Medical Association.

While operating for irreducible inguinal hernia, it not infrequently happens that after the knife has penetrated the subcutaneous adipose tissue, there presents a bundle of varicose veins shining through between the muscular strands of the cremasseter muscle. When this happened, I have separated the tortuous veins, ligated them. snipped off the ligated portion and brought the ends together, usually before I proceeded with the operation in hand. From this procedure has developed the operation, which can be called a suprapubic varicocele-ectomy, and which I am about to describe.

In preparing the patient I empty the alimentary canal thoroughly 24 to 36 hours before the time set for the operation, knowing that by so doing I prevent the intestinal fermentation which is usually unavoidable when the patient is only prepared the night before. I have the field well prepared, not only on the side of the location of the varicocele, but also on the opposite side and well down both thighs, and backward at least to the middle of the perineum.

For landmarks, I draw a line on the skin between the pubic spine and the anterior superior spine of the ilium of the affected side. Parallel to this line and about three-fourths of an inch from it, I draw a second line extending from a point over the symphysis pubis to a point corresponding to the juncture of the lower and middle thirds of the first line. The middle third of this latter line indicates the minimum incision necessary, while the full length of the line represents the maximum incision required in an extreme case. The middle third will be found to overly exactly the external abdominal ring.

As soon as the skin incision has been deepened to the level of the fascia of the external oblique muscle, the tortuous veins shine through the white layers as purple conglomerations, and if the patient should strain at this moment, the appearance will simulate a true intestinal hernia.

The operator has before him a perfectly dry field, which, on account of its color and its structural differences, allows a perfect orientation. He can proceed to pick up the tortuous veins with a fine mouse tooth forceps and separate them from the surrounding fibers by blunt dissection with the handle of the scalpel. Doing this, the spermatic cord will come into the field and can be held by an assistant gently between thumb and forefinger, and kept warm, if necessary, by sponges moistened with hot saline solution, well out of harm's way. Thus the veins should be bluntly dissected out downward toward the testicle until we get to but not into the tunica vaginalis and upward, while making gentle traction, until the vein presents a straight course.

The tortuous portion is now freed from its moorings and can be arranged to form a loop around the operator's fingers. Where the loop doubles, I pass a needle between the veins, carrying a catgut ligature, and doing this repeatedly I closely approximate the reduplication of the loop, exsecting later the cycle. Then I carry the needle through the fibers of the ring above and those of Poupart's ligament below, firmly anchoring the veins. A few buried sutures of heavy catgut are then applied in order to bring the subcutaneous parts together and strengthen the ring. The wound is closed with silkworm gut. The patient can generally be discharged on the tenth day, wearing a suspensory bandage.

As advantages for this operation over the old method, I claim the following:

1. The field of operation can be more thoroughly disinfected.

2. The field of operation is always in full view and the parts do not slip out of the fingers, as they will in the perscrotal operation.

3. This method attacks the lesion over its whole area.

4. It is bloodless.

5. It divides no muscle fibers and destroys no tissue which has any function whatever.

6. It allows the distended scrotum to contract to its physiological size, and, in fact, leaves the side operated on apparently smaller,

immediately after the operation, on account of the elevation of the testicle.

7. Approximation of the skin wound is possible.

8. A firm dressing of the part is feasible.

9. The patient suffers no after pain as the basis of the operation is absolutely immovable.

10. The scar can be made evanescent and is always located under cover of hair.

11. No deformity can result, as the musculature of the scrotal sac remains intact.

12. The ease of performance will be apparent to any one who has seen or done the perscrotal operation and tries the suprapubic. It can be performed in 30 minutes or less.

13. Convalescence is short and uneventful, ten days being amply sufficient.

Thirty-first street and Telegraph avenue.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By WALLACE A. BRIGGS, M.D., Sacramento, Cal., and
WM. FITCH CHENEY, B.A., M.D., Adjunct to the Chair of Obstetrics and Diseases of Women and Children, Cooper Medical College, San Francisco, Cal.

Pregnancy Following Ventrofixation, with Improvements in the Technique of the Operation.—The following conclusions are reached by DR. A. LAPTHORN SMITH: (1) That as far as curing retrodisplacement, either retroflexion or retroversion or anteflexion with retroversion, is concerned, ventrofixation with two buried silk stitches through the peritoneum and fascia gives the most reliable results. Failures are unknown when the operation is performed in this way. (2) Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as the detaching of adhesions and the removal of the diseased tubes which caused the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen. (3) When the uterus is firmly attached to the abdominal wall and pregnancy follows, trouble of some kind, either pain, miscarriage, or difficult labor, requiring obstetrical operations, takes place in about 30 per cent. of the cases; that is, 36 in 148. According to my investigation, the other 75 per cent. went on to normal labor, without other inconvenience than a dragging pain in about half of them. (4) When suspensio uteri was performed—that is, the uterus attached to the peritoneum of the abdominal wall—a few relapses occurred; but, to counterbalance this objection, the patients were free from pain during pregnancy, and the labors were less tedious, neither did they require resort to serious obstetrical operations. The uterus should, therefore, be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain. (5) A third method is claimed by some—namely, the intra-abdominal shortening of the round ligaments—is preferable to either ventrofixation or suspensio uteri. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube, or, in cases in which the latter are not removed, simply to detach them from the adhesions and shorten the round ligament by drawing up a loop in it and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents which are present in 30 per cent. of the cases of ventrofixation are certainly avoided. (6) If the uterus is attached to the abdominal wall the stitches should be kept on the anterior surface, but near the top of the fundus. The complications were more frequent when there was too much anteversion than when the anterior surface of the fundus was attached to the abdominal wall. (7) As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position. (8) Several of my correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labor unfavorably influenced by it. Alexander's operation should, therefore, be preferred whenever the uterus and appendages are free from adhesions. (9). The results of Alexander's operation are so good that even when there are adhesions it may be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method, after which the abdomen should be closed This can be done without adding more than one-half of 1 per cent. to the mortality, which in Alexander's operation is *nil*.—*American Journal of Obstetrics.*

Pus in the Pelvis.—DR. JOSEPH TABOR JOHNSON presents the following conclusions: It is claimed by too many good surgeons to admit of doubt that: (1) The vaginal section is very much more quickly done than the abdominal, and the convalescence is much shorter. (2) There is little or no shock. (3) The peritoneal cavity being seldom opened in these cases, except when hysterectomy is done also, much less traumatism occurs to the intestines, bladder, ureters, omentum, or abdominal wall, to greatly prolong difficult and dangerous operations. (4) Drainage being down hill, it is not opposed by the laws of gravity, and is more natural, safe, and copious. (5) There is no ugly scar to annoy the eye and develop a painful keloid or perhaps a ventral hernia. (6) The mortality of the vaginal operation for pus, is vastly less than in the enucleation of tubo-ovarian abscesses from above in the badly adherent and complicated cases. (7) Experience has abundantly proved in more than a sufficient number of cases that the removal of the abcessed organs is not necessary to a symptomatic cure, and that a permanent and complete restoration to health is the rule, while a secondary operation later on is the exception. (8) Should a secondary operation from above become necessary, its performance would be much easier and safer, on account of the freedom from pus and the improved condition of the patient. (9) The perfection of the operation for draining double pus tubes through the vagina has opened the way for many other beneficent operations from below, including anterior and posterior colpotomy, explorations, hysterectomy, etc. (10) Many patients who fear and will not consent to celiotomy with its possible accidents, including intestinal injuries, the postoperative sequelæ and the scar, the stitches, bandages, the troublesome supporter for six to twelve months, and the possible hernia, will readily consent to vaginal incision and drainage, and vaginal hysterectomy when necessary. (11)

Vaginal hysterectomy with the ovaries left *in situ* is followed by much less nervous and physical disturbance than when the ovaries are removed and the uterus left, or than when they are all removed at the same time. (12) If any or all of these advantages are admitted in favor of the vaginal operation over the abdominal, then it must follow that it is our conscientious duty to operate by this route more frequently in the future than we have done in the past.—*American Journal of Obstetrics.*

Porro Operation vs. Total Hysterectomy.—Summary of paper by PROF. H. J. BOLDT: (1) Total hysterectomy should be performed in preference to supravaginal hysterectomy with extraperitoneal treatment of the pedicle. (2) The operation should never be performed unless absolute indications are present. (3) The uterus can be rapidly removed by applying clamps on either side and working as detailed in the *technique;* the difference in time consumed in a "Porro" and an ideal total hysterectomy is not more than a few minutes, because the elastic ligature is dispensed with, and the proper attachment of the cervix in the lower angle of the wound nearly equals the time consumed in ligating the vessels and the suturing of the peritoneum after the removal of the uterus. (4) When the child is dead *in utero*, the organ should not be opened for the purpose of first delivering it, but the uterus should be removed *in toto* unopened. The advantages of the total hysterectomy over the Porro operation are: (1) Less danger of infection. (2) Practically no danger from secondary hemorrhage. (3) Less danger of intestinal obstruction. (4) A shorter period of convalescence. (5) Less danger of ventral hernia. Disadvantages: It has none which will not be shown to be negative by a practical test.—*American Journal of Obstetrics.*

SURGERY AND ANATOMY.

By T. W. HUNTINGTON, B.A., M.D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal., and
GEO. B. SOMERS, M.D., San Francisco, Cal.

Catgut as a Skin Suture.—BOCKMANN says: In the skin, which only with difficulty, if at all, can be rendered aseptic, sterile catgut will likely produce stitch abscess, as the catgut will form a good culture soil for the bacteria present. In order to preserve catgut as a skin suture, to the exclusion of all others, it will be necessary, so far as I am able to judge, to continue along the line indicated in retaining the fat, and seek an agent which will render catgut an impossible culture medium, and remain with it until the last fiber is absorbed. *New York Medical Journal.*

To Disinfect the Hands.—The hands are first thoroughly washed in hot water and a potassium soap, a nail brush being vigorously used and particular attention being paid to the nails and spaces around the nails. They are then immersed in an antiseptic solution of sufficient strength to kill bacteria in a short space of time. Either bichloride or alcohol may be used for this purpose. A bath of 70 per cent. alcohol is then used until the skin is thoroughly permeated and the hands wiped dry on a sterile towel. A solution of paraffin and xylol is then poured over the hands, which, when the xylol evaporates, forms a thin coating, to a great extent playing the part of an operating glove.—*Maryland Medical Journal.*

Surgery of Joints.—In an article by MR. J. S. MCARDLE, the following occurs: I have already vigorously advocated the use of chloroform in the adjustment of complicated fractures, and now desire to call attention to the necessity for thorough going surgery in the reduction of dislocations. I shall, for the moment, confine myself to the study of the ill-effects of injudicious manipulations of the elbow-joint, after displacement backward of both bones. We are all acquainted with the injuries so often detailed of tendons, vessels, and nerves, but we are not forewarned of the disasters which are of more frequent occurrence. We rarely see lacerations of vessels or nerves, while the number of cases we meet of partially reduced dislocations, complicated by epiphyseal separation or supra-condyloid fracture is truly alarming. I hold that these are always due to violence in a wrong direction, and, for the most part, while the muscles of the arm are on the alert. There is no reason for undue haste in the reduction of these displacements. Nor is there justification for the application of undue force. If a dislocation does not yield to gentle effort, the muscles should be overcome by an anesthetic, when, usually, no trouble is experienced in replacing the bones. If it be pernicious in recent cases to use violence in attempts at reduction, the folly of efforts at forcible reposition in old-standing dislocations is akin to criminal.—*Dublin Journal of Medical Science*, April, 1898.

Removal of Spleen.—The symptoms produced by the excision of the normal spleen in adult man, are: (1) Progressive loss of weight and strength. (2) Extreme anemia, aspect withered and sallow. (3) A daily rise of temperature. (4) Increased frequency of the pulse. (5) Fainting attacks with great pallor of surface. (6) Headache, drowsiness, thirst, voracity. (7) Diminished or increased secretion of urine. (8) Griping pains in abdomen and tenderness along the long bones. (9) Enlargement of lymphatic glands. (10) Certain typical blood changes. These symptoms become manifest some ten to fourteen days after operation, continue in great severity for a fortnight, and then a slow but perfect convalescence ensues.—MR. BALLANCE in the *Practitioner*, April, 1898.

Rubber Gloves.—ZWEIFEL has used rubber gloves for years, covering the arms with linen sleeves, which fit close to the gloves at the wrist. His gloves have no finger-tips, but separate finger-cots of thin rubber are used instead. This is a considerable saving in expense, as a very thin rubber glove is easily pricked or torn in tying ligatures and in suturing. MICKULICZ has recently recommended the employment of fine silk or lisle thread gloves, which may be sterilized without damage in a steam sterilizer, and which may be changed during an operation as often as they become soiled. As they readily absorb blood, it is necessary to disinfect the hands before putting them on, but they are superior to rubber gloves in several respects. They are far less clumsy. To tie a knot of fine silk with the hands encased in rubber gloves is a difficult procedure. They are more durable, they are pervious to air, and, therefore, more comfortable. The increased perspiration of the hands when rubber gloves are worn, may become a pointed danger if removal of the gloves is necessary during an operation. Gloves may be rendered, to a degree, impervious to water, by thoroughly drying the gloves and then soak in a 10 per cent. solution of paraffin in xylol.—*Medical News*, March 26, 1898.

Treatment of Elbow-joint Fracture.—In the course of an article on this subject, DR. H. L. SMITH says: Passive motion, especially at an early date, I believe to be not only useless but many times harmful. If the joint surfaces are extensively bruised, if the general laceration of tissues is so great that adhesions will form in any case, then continual motion and irritation will but increase the amount of deposit, and the final bonds of adhesion will but be the larger and the more dense. It was long ago shown that the fear of anchylosis resulting from simple fixation of a joint, is absolutely baseless. The best results may be expected to result from that course of procedure which should replace all injured parts accurately, hold them in place immovably and continuously until union should be accomplished.—*Journal of Medicine and Science*, April, 1898.

Invagination.—In an article on intestinal obstruction, BYRON ROBINSON says that invagination causes one third of all cases of intestinal obstruction; that one-half of all cases of invagination occur before ten years of age, and that the chief symptoms are: (1) A sudden onset of periodic exacerbations of colicky pain (later it becomes constant). (2) Blood in the stools in 80 per cent. (3) Severe tenesmus. (4) Tumor may be felt in rectum or abdomen. (5) Course of invagination is about five days. (6) Vomiting and tympanites are not conspicuous. (7) Infrequently a tumor can be felt. (8) Partial obstruction.—*Mathew's Quarterly Journal*, April, 1898.

Varicocele.—In a clinical lecture by PROF. WM. L. RODMAN, the following points were made: Most cases of varicocele become hypochondriacs in time. In the case shown, the testicle on the affected side was considerably atrophied. The condition occurs as a rule in adolescence, having a close connection with the sexual apparatus. It does not occur before puberty and very rarely after 35. It occurs mostly in the continent Varicocele and the mental disturbances incident thereto, are generally cured as soon as marriage has occurred. The condition is comparatively rare in married men. Owing to incontinence and the thickness and shortness of the scrotum in the negro, the condition is exceedingly rare in this race.—*American Practitioner and News*, May 15, 1898.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By WM. ELLERY BRIGGS, M.D., Sacramento, Cal.

Antitoxine Treatment of Ozenic Atrophic Rhinitis.—The fact that the pseudo-diphtheria bacillus is found in a large percentage of cases of atrophic rhinitis has led several men to experiment with antitoxine in the treatment of the disease. DR COMPAIRD sums up the result of his experience as follows: (1) At present this procedure is one which furnishes the most positive results in the treatment of ozena. (2) The result is shown subjectively by the disappearance of the fetor after the second or third injection of five or six cubic centimeters of serum, recently obtained and employed according to all the antiseptic and aseptic rules; and objectively by the absence of dryness in the nasal fossæ, with diminution of the crusts and the increase in the nasal secretion. (3) Objectively, a change in the color of the mucosa is noted, becoming redder, moister at times, and slightly congested and hyperemic. (4) The crusts are less hard, dry, and extensive, and become more fluid, according as the number and dose of the injections increase. (5) The quantity of ten cubic centimeters proposed by Gradenigo is not free from danger, and this is so even in the weaker doses. For this reason it is necessary to use injections in gradually increasing doses with great care. (6) The treatment in question offers many inconveniences and dangers, but, on the other hand, it furnishes very positive results; therefore it is proper that the study of the method should carefully pursued.—*Annales des Maladies de l'Oreille.*—*New York Medical Journal.*

Vision of Children Attending the London Primary Schools.—ARNOLD LAWSON, F.R.C.S. Eng., reports the result of the examination of 2,014 children in the London primary schools. There were found 698 with normal vision, and 1,316 children who had defective sight in one or both eyes. As a result of the author's study of these cases he formulated the following conclusions: (1) Hypermetropia, with or without astigmatism, claims a very large proportion of all cases of subnormal vision. (2) The amount of myopia is small. (3) The conditions of the schools are very unsatisfactory as regards light, space, and ventilation. Though no relation can be ascertained between visual defects, especially myopia, and the state of each school in these respects, it is highly probable that such deficiencies, by impairing the general health, increases the tendency to myopia. Any harm done cannot be gauged by a single examination, but can only be estimated by a series of periodical examinations extended over several years. (4) There are a very large number of children attending London elementary schools suffering from hypermetropia, squint, and myopia, who require and who have never had proper medical examination and treatment. (5) There should be some active supervision of the eyesight of children attending the elementary schools. (6) The supervision should take the form of a regular periodical examination of the children's vision. I would suggest that every child after entering school, should, on the earliest occasion, have its vision tested, and that such an examination should be repeated before the child leaves school. Moreover, at each of these periodical examinations any other whom the teachers have reason to suspect of defective vision should also be reëxamined. These examinations could be carried out with very little trouble and expense of time by the teachers themselves by supplying each school with the ordinary Snellen test type, with a few necessary directions as to use. The result of such examinations should be recorded in each school in a book kept for that purpose. Such records would be of considerable scientific value. (7) The records of these examinations should be under the supervision of some responsible medical officer, whose duty it would be to see that suitable medical treatment is supplied to such cases as may need it. The medical officer should be responsible for the regular conduct of these examinations, and should report on any deficiencies in the school buildings and equipments.—*British Medical Journal.*

When and Why Shall We Operate in Insufficiencies of the Ocular Muscles?—DR. ALEXANDER DUANE states the indications for the operation in insufficiencies of the ocular muscles, as follows: (1) The symptoms must be pronounced enough to call for treatment. This, which would seem to be an obvious restriction, is disregarded by some who would correct all deflections of the eyes whenever met with, on the ground that they must lead to trouble sooner or later. But, in view of the fact that even well marked deviations may exist for years without producing any special symptoms, we should prefer to follow the well-understood rule of surgery and leave uncorrected a condition which is causing no disturbance. (2) The muscular anomaly must be more or less constant in presence and amount. (3) The symptoms must be directly traceable to the muscular anomaly. To determine this, we must have sought for and as far as can be, have eliminated other possible causes of the symptoms —that is, we look for and seek to remedy diseases of other organs, we try the effect of tonics and exercise, and we correct the refraction. When, by a process of exclusion of this sort we have narrowed the question down so as to feel confident that the eye muscles are the cause of the symptoms, we may then test our belief by giving a correction of prisms for temporary use. Prisms prescribed for constant wear are hardly ever of much service as a therapeutic measure—indeed, they often do harm if worn long—but as a means of diagnosis they are of considerable value, since a case which is benefited temporarily by wearing them is *a fortiori* likely to be benefited by an operation. (4) We must make an accurate diagnosis of the nature and cause of the muscular anomaly. To do this we must not rest satisfied with the statement that our patient has so many degrees of esophoria or hyperphoria, but must find out what is the cause of esophoria or hyperphoria, *e. g.*, whether it is due to insufficiency or overaction of any special muscle or to underaction or overaction of one of the associated movements of the eyes, or two or more conditions combined. (5) Our treatment must then be directed to the cause so found. Thus, if we are dealing with an esophoria or convergent deviation, we shall, as has just been pointed out, treat it in one way if the esophoria means deficient divergence or insufficiency of one or both externi, and in quite another way if it means either excessive convergence *per se* or excessive action of one or both interni. It need hardly be added that an operation in any case must be regulated by the effect to be produced, and hence must be graduated by careful measurements taken before, during, and after its performance.—*New York Medical Journal.*

The Diagnosis of Diphtheria of the Conjunctiva.—DR. SIDNEY STEPHENSON states that diphtheria of the conjunctiva is supposed to be a rare affection in Great Britain, although it is known to be common in some other countries—as North Germany and South of France—where it is especially frequent during epidemics of throat diphtheria. No age is exempt, but it is more common in young children. The ailment, as a rule, is bilateral, but an interval, amounting to some days, generally elapses before the second eye suffers. It is frequently associated with diphtheria of the fauces, nose, or other parts It is prone to affect those whose power of resistance has been lowered by some recent illness—as measles, scarlet fever, or whooping-cough. The author reports two cases that had come under his observation, in both of which the membrane found on the conjunctiva of the upper lids was discovered to contain the Klebs-Loeffler bacilli The author states that we should recognize the clinical fact that the severity of conjunctival diphtheria varies greatly. Thus, its signs are sometimes of so trifling a nature that they may easly be attributed to a wrong cause unless associated with diphtheria elsewhere, or followed by nervous sequlæ. On the other hand, they may be so decided that the cornea may be destroyed within 24 hours. It would be a truism to say that in diphtheria of the conjunctiva (as in all ailments due to germs) the clinical appearance depends upon the relationship that exists between two factors: (1) The virulence of the Klebs-Loeffler and other microbes. (2) The resisting powers, local and general, possessed by the patient. The author agrees with continental writers that diphtheria of the conjunctiva may be met with clinically under three forms, namely, the interstitial, the superficial membranous, and the merely catrrrhal. The diagnosis of conjunctival diphtheria is not so simple a matter as one might think. The history of the case will often assist in the diagnosis. The coëxistence of diphtheria of the fauces, nasal or bucal mucous membrane, skin vulva, or elsewhere, would suggest the nature of the trouble. The only positive evidence to be gained is by bacteriological examination. All forms of membranous conjunctivitis are not diphtheritic in nature. The Klebs-Loeffler bacilli are also found in cases of conjunctivitis in which no membrane appears. The author believes that the diagnosis must rest upon the presence or absence of the diphtheria bacilli.—*British Medical Journal*.

DERMATOLOGY, SYPHILIS AND VENEREAL DISEASES.

The Treatment of Gonorrhea in Women.—FURST (*Therap. Monatshefte*), has found protargol to be the safest and best application in the treatment of gonorrhea in women. By it a cure can be effected with considerable certainty in three weeks. For therapeutic purposes cases may be divided into two groups: (1) Those in which the parts below the external os alone. (2) Those in which the parts above—namely, the cervical canal and the endometrium, and occasionally the tubes, are involved. Simple gonorrheal vaginitis is rare, and is usually secondary to either descending or ascending infection. Hence it is of the greatest importance in every case of cervical gonorrhea to treat the endometrium at the same time, even if still healthy, in order to prevent its secondary infection. A thorough treatment of the endometrium is now possible without fear of doing more harm than good since protargol is not irritating. A. In the second group of cases the author's method is as follows: (1) The vulva and vagina are cleaned and disinfected. (2) The cervix is gently pulled down, and when necessary the internal os enlarged with dilators. (3) The uterus is washed out with sterile tepid water. (4) Then with at least 3½ pints of a ½ per cent. protargol solution; next, if this produces no irritation, with (5) a 1 per cent. solution. (6) The vagina is dried with sterile cotton wool, and a 5 per cent. protargol bougie passed into the cervical canal, and kept in place with a tampon. (7) After 15 minutes, when the bougie will have melted, the tampon is removed, the vagina dried with wool, and a 10 per cent. protargol-glycerine tampon introduced. (8) After 24 hours the same process is repeated, and every day for five to seven days, only the protargol solution is strengthened gradually to 2½ per cent., and the bougies to 10 per cent. The woman should keep in bed for the first week of treatment. (9) Although at the end of this time no gonococci can be found, it is necessary to repeat the process every other day during the second week; on the alternate days astringent solutions (2½ per cent. bismuth subnitrate with glycerine and water), and bougies of boro-phenol-alum 1 per cent. are used, though the tampon is still of protargol glycerine. (10) During the third week astringents alone are employed (a daily injection of the bismuth with one alum bougie and tampons of glycerine of tannin). (11) The cure is thus completed in three weeks, but it is well for the woman to continue the injections herself for a time. Relapses take place practically only when reinfection occurs from gonorrheal salpingitis, against which, of course, the protargol treatment is powerless In eight out of every ten cases of virulent discharge the primary site is the cervix and uterus, and the above treatment applies. B. In the few remaining cases where a gonorrheal vaginitis is primary, its site is in the lower third near the vulva. Here treatment is much simpler: (1) Any desquamated mucosa is touched with lunar caustic. (2) Injections of 5 per cent. protargol solution and tampons of 10 per cent. glycerine of protargol. (3) Later the treatment is astringent. Of course in these cases any vulvitis, bartholinitis, or urethritis must be treated also. The author always washes out the bladder, as a prophylactic measure, with 1 per cent. protargol solution, or if cystitis is already present with 2½ per cent., and leaves a 5 per cent protargol bougie in the urethra, which is one of the commonest places from which relapses start.—*British Medical Journal.*

Symposthion.—DEUTSCH (*Wien. med Presse*), describes two cases of an affection named "symposthion," by Lang. It consists in adhesion of the inner surface of the prepuce to the glans penis, and is of some importance as a complication of venereal diseases, as it leads to the formation of niches and recesses in which secretion can accumulate and organisms multiply. Thus the first of the cases under notice was one of gonorrhea, which improved somewhat under irrigation with permanganate, but subsequently relapsed. The adhesions between prepuce and glans left two recesses into which sounds could readily be passed. These recesses were found to contain pus, in which gonococci were abundantly present. The other case was one of soft sores complicated by inguinal buboes. In both the symposthion was operated on with success, the adhesions being separated and the foreskin completely retracted. The free edge of the latter was sewn round behind the sulcus, and the raw surface, where necessary, covered in with Thiersch grafts. Any exuberant granulations were touched with lunar caustic. The author states that the condition is usually inflammatory in origin, but may in a certain number of cases, as pointed out by Düring, be congenital.—*British Medical Journal.*

Treatment of Lupus by the Roentgen Rays.—DR. HUMMELL, of Hamburgh, in reporting his experiences with this method to the German Surgical Society, says they are at least an encouragement to further investigation. At first it caused a burn in the skin in the neighborhood of the parts affected. He had tried to avoid this by placing the patient 40 ctm. from the tube, and then bringing it gradually nearer. The current was interrupted at once on the least appearance of reaction In the case of the scalp the parts not to be treated were protected by a covering of stannoil. He had so far treated 15 cases, eight bad ones. He had been very well satisfied with the results, although he could not speak of a cure. He had obtained similar results with concentrated light. *Medical Press and Circular.*

Ultimate Results of Castration in Cases of Prostatic Hypertrophy.—In an editorial article of the May number of the *Annals of Surgery*, Pilcher gives some observations upon the ultimate results as a means of relief for obstructive hypertrophy of the prostate, as follows: *Case 1.*—Time since castration, three years. Present age, 77. Health excellent Still has five ounces of residual urine, which are withdrawn twice daily by catheter. Urinates spontaneously every two or three hours. *Case 2.*—Time since operation, two and a half years. Age, 58 Notable improvement in bodily and mental vigor since operation. Had had a greatly overdistended bladder and dribbling urine. Still has 10 oz. residuum, and has to use the catheter. Prior to operation there was chronic retention, with 64 ounces in the distended bladder *Case 3.*—Time since operation, two and a quarter years. Age, 54. Some residual urine remains, and he continues to have cystitis Is obliged to use catheter and bladder irrigation. Urination is now more difficult than during the first year after the operation. *Case 4.*—Time since operation, two years Age, 67. Health excellent. No mention made of the condition of the bladder. *Case 5.*—Time since operation, one and three quarters years. Age, 64. In good health and free from all urinary symptoms. *Case 6*.—Time since operation, one and a quarter years. Age, 72. In good health and free from all urinary disturbance. *Case 7*.—Time since operation, one and a half years. Age, 74. In vigorous health. No mention of the condition of the bladder. It is unfortunate that the writer has not made a more detailed report of some of these cases. In the first part of the article there is recorded another and striking case, as follows: The patient, aged 72 years, suffered from obstructive prostatic disease, not relievable by catheterization. Suprapubic cystotomy and double vasectomy gave him marked relief and restored the power of voluntary urination. Both results were temporary, however; and at the end of four months obstructive symptoms were again marked. He was then castrated. Gradual amelioration of the urinary symptoms followed; and at the end of four months he was performing the urinary function normally, and was in excellent health again.—*Boston Medical and Surgical Journal.*

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M.A., M.B., C.M., Professor of Clinical Medicine, University o California, San Francisco.

The Treatment of Suppuration by Bicarbonate of Soda.—BRUCKER has made a study (*Thèse de Bordeaux*) of a fact observed by him—namely, the influence of the reaction of the blood in the healing of certain conditions. Bearing in mind that the normal alkalinity of the blood shows important variations according to sex, age, and as to whether the blood is arterial or venous in origin, and the diet to which the patient has been addicted, so in certain pathological conditions these variations are very marked, and a reduction in the normal alkalinity is observed in certain cases of febrile reaction due to bacterial intoxication. It has been found that certain artificial intoxications can be combated by raising the alkalinity of the blood by the injection of alkaline serum. Going on these grounds, Brucker has principally investigated the influence of alkaline dressings in the treatment of local inflammatory affections, and according to his observations such a dressing, whether moist or dry, very rapidly reduces the inflammation suppurative or otherwise, and causes rapid healing of wounds. This seems independent of any antiseptic property in the proper sense of the word. The method employed by him is to apply the dressing of absorbent wool on ordinary principles, using merely a 2 per cent. solution of bicarbonate of soda, or in some cases vaseline and bicarbonate (1 in 25), or the soda may be applied directly in the form of a powder. He finds that strong solutions do not act more quickly than a 2 per cent, showing that the chief agent is the alkali, and not any antiseptic principle. The same method may be applied for purulent otitis, etc.—*British Medical Journal.*

A Method of Resuscitation in Apparent Death from Anesthetics.—HERZOG (*Deut. Zeit f. Chirurgie*), gives the results of some experiments he has undertaken on animals with a view of testing the efficacy of Laborde's method of "rhythmical traction of the tongue" in cases of apparent death from drowning and anesthetics. Laborde described his method at the Medical Academy in Paris in 1892. His attention was first directed to the question by observing the good results which he obtained in the laboratory on narcotised animals by rhythmical traction of the tongue. In 8 cases of drowning, where the animal was kept under water for three and a half minutes, resuscitation took place in 5 cases. In Sylvester's method animals cannot be revived after one and a half minute's submersion. The directions for the use of Laborde's method are as follows: Place a piece of linen round the tip of the tongue, and grasp it with the thumb and middle finger; now pull the tongue forward with a jerk, and then relax it again; repeat this maneuver 20 times a minute. A sense of resistance is felt in the tongue before there is any attempt at respiration. Traction should be continued for 30 or 60 minutes. Herzog experimented on dogs; he administered chloroform till the respiration had ceased for one and a half minutes. He found that Laborde's method was useless in cases of asphyxia in a late stage of narcosis. In an early stage of narcosis, however, Laborde's method is distinctly useful when associated with other forms of resuscitation. Traction on the tongue is said to stimulate the centers in the medulla; this necessitates an increased blood supply to the part. The respiratory center is in close proximity to the centers concerned in the movements of the tongue, the beneficial effect would therefore act on both.—*British Medical Journal.*

Local Applications of Salicylate of Methyl.—LINOSSIER and LANNOIS. (*Bull. de l'Acad. de Méd*), revert to the study of the therapeutic action of methyl salicylate applied to the unbroken skin. They first substantiate their view that this action is due to actual cutaneous absorption and not to the inhalation of the drug through the lungs. They claim that having entered the body it is saponified in the blood and thus converted into sodium salicylate, which exercises its ordinary remedial effects without irritating the stomach, and with the additional advantage of producing some local analgesia. A further fact, which seems to be well founded, is the rarity and slightness of the toxic effects. Even after large doses vertigo, tinnitus, etc., are quite exceptional. There is practically no cutaneous irritation; the local anesthetic action is of particular use in chronic rheumatic affections. In acute rheumatism the application should be made twice a day; the remedy is also frequently, though not universally, efficacious in infectious and gouty arthritis, and in many other chronic painful diseases such as neuralgia. With regard to the method of use, the authors recommend that the methyl salicylate should simply be painted on and hermetically covered over with several layers of india rubber. They have experimented with several kinds of excipient, such as vaseline and lanoline, and find by examination of the urine that less of the drug is absorbed than when it is used as described. The ordinary dose is 60 gr., but in acute and infectious (for example, gonorrheal), cases two or three times the amount may be given. They do not recommend the use of oil of wintergreen. A good bibliography is appended —*British Medical Journal.*

Alcohol in Milk.—The effect of brewers' grains, distillery swill, ensilage—in short, of fermented fodder of any kind—on the milk of cows, in rendering it prone to turn sour within 12 hours, and to set up gastro-intestinal disturbance in infants, is so well known that the use of such foods is expressly prohibited in the contracts between the great dairy and the condensed milk companies, and the farmers from whom they obtain their supplies; but whether alcohol ever passed over as such into the mammary secretion of the cow or the human female is a point that has been denied on negative, and maintained on insufficient, evidence. A recent observation by H WELLER has, however, proved beyond question the possibility of such a result, for he was able to recover 0 96 per cent. of alcohol from the milk sent out from a dairy owned by the proprietors of a large distillery, where, in addition to cake and other fodder, the swill containing 5.9 per cent. of alcohol, or as much as is present in strong ales, was given to the animals, though in what quantity is not stated. The milk examined was perfectly fresh and otherwise of normal composition, without a trace of souring. The s.g. was 10.335, the total solids 13.307 per cent., and the fat 3.79. It had, however, a peculiar harsh taste, of which the consumers complained, and which Weller found to be due to a flocculent substance present in the swill, and deposited from the distillate obtained from the milk, though he does not seem to have made any attempt to determine its nature.—*Practitioner*, July, 1898.

MEDICINE AND PATHOLOGY.

By Albert Abrams, M.D., Professor of Pathology, Cooper Medical College, San Francisco.

Hydrophobia.—In this contribution Dr. Stockwell (*Dom. Med. Month. and Ont. Med. Journal*), lays down some very common sense deductions which will do much toward abating the senseless epidemics of rabiphobia that threaten from time to time: (1) Rabid dogs do not fear but court water. (2) Rabies can never arise sponstaneously either in man or animals. The absence of recent wounds upon, and the good health of the creature inflicting the bite, are alike evidence of the non-specific character of the disease. (3) Wounds inflicted by the teeth of non-carnivorous animals are never rabic, though a blood-poisoning may be induced. Man cannot communicate the disease to other human beings or to animals. (4) The saliva of the truly rabid carnivora alone is capable of inducing rabies. (5) Excessive saliva in any creature, more especially dogs, is always induced by any affection of the mouth or throat; is the universal sequel of toothache, of inability to swallow from any cause, of paralysis, of throat abscess. Paralysis, independent of rabic condition, is a sequel to numerous local brain and nerve maladies; twitching of the eyes, of eyelids, of lips, and muscles, lolling tongue, indrawn tail, upward flanks, drooping head, slinking gait—one and all should be included in the same category. (6) Safety lies in preserving the life of the suspected canine and sequestering for observation; by premature death the only evidence whereby rabies can definitely and with certainty be established, is destroyed. Muzzle the creature and examine for recent wounds; if none are exhibited, fear is idle; if it evinces a good appetite, and if it partakes of food freely on and after the fourth day, it is not rabid; if it dies without paralysis, it is not rabid; if it succumbs to paralysis, the chances are still a thousand to one its death was due to some natural cause; if it falls into convulsions and froths at the mouth, it is an epileptic, and an object of commiseration. Ninety-nine out of every hundred dogs pronounced "mad" are epileptics or choreics, and the dogs with "fits" are positively never rabid; if, after ten days' confinement, the suspected animal evinces a cheerful disposition, there is no danger whatever, and it should be released. Where death supervenes, critical examination of the body—the brain, viscera, etc.—should be made by a competent pathologist, to determine whether there is a cause for death aside from rabies (7) Members of the human race, suffering from rabies, do not howl, whine, bark, or exhibit other canine characteristics or peculiarities any more than do cats, fowls, sheep, cattle, etc.; such phenomena are conclusive evidence that the malady is hysterical. (8) Intolerance of light and air in motion, fear of water and bright substances, and spasms of muscles of the throat and neck, far from constituting specific evidence, are common in diphtheria, croup, goitre, sore throat, lock-jaw, pregnancy, hysterics, ear abscesses, hay fever, poisoning by certain mineral and vegetable substances; they may arise from the use of narcotics, sedatives, and alcoholics; from cancerous affections, certain maladies of the internal ear, of the eye as in glaucoma, diseases peculiar to sex, and a multitude of brain and nerve maladies. In no instance would these symptoms excite special comment or alarm were not the dog linked therewith as a factor. (9) Error in judgment is the almost inevitable result of accepting mere negations for their antithesis. Careful examination of the evidence laid down for the distinction of rabies reveals little aside from mere negations. Until death ensues, the weight of evidence is always negative; when dissolution follows, it is very far from being presumptive of the positive. (10) Since less than 3 per cent. of infected canines ever contract the malady, the danger to man is several hundred times less than from scarlatina, measles, quinsy, ague, and a host of simple maladies. As Professor Charles Bell Taylor remarks: "It is less than one in a million—less than being kicked to death by a horse;" to which may be added, it is less than the gallows. Atop of all, it may be said that, after examining as thoroughly as possible the history of each case of rabies reported as occurring in North America during 55 years (and they number about 1,000), I have been unable to find even one that was not open to the gravest suspicion as to error —*The Post Graduate*, May, 1898.

Accidents Produced by the X-Rays.—L. Derville claims that they are not of frequent occurrence. Among professionals who employ Roentgen rays, a radiographic erythema is not unfrequently observed; the skin becomes glossy, reddened, hardened, and, later, it becomes thickened and moves less easily upon the subjacent parts. The cutaneous folds become exaggerated, often present a whitish appearance and sometimes they even ulcerate. The epidermis exfoliates in places, the hairs fall, the nails become flattened, thinned, friable, and present longitudinal striæ; often they are painful to touch. The movements of the fingers are awkward from the stiffness of the skin; sometimes the hands are affected with slight trembling; pain is seldom complained of, but there is often a sense of constriction at the tip of the finger; and tactile sense is blunted. All these symptoms come on gradually, are chronic, and disappear if radiography is given up as a profession. In the case of patients subjected to the transitory influence of the X-rays, the lesions resemble a burn, varying in results from the production of a slight erythma to a deep eschar. The slight burns may be followed by pigmented spots, or redness may occur in the course of some days; there may be exfoliation or blebs filled with serum or pus. The eschar resulting from deeper burns may remain adherent for weeks and may be followed by a pigmented cicatrix. Action of the X-rays upon the viscera has been denied, but several observations have been published that allow no doubt as to their influence. Here the symptoms are not always manifested after the exposure, but often they occur during its continuance. In two cases prolonged exposure has produced a sensation of oppression, followed by irregular and violent action of the heart. Prolonged exposure of the abdomen has resulted in malaise, abdominal pain, nausea, and vomiting. Several theories have been advanced to explain these various phenomena Lannelongue, Kaposi, etc., compare the action of the rays to that of the sun and assume a prolonged dilatation of the vessels, with resulting paralysis. Guillaume assumes a disorganization of the tissues in consequence of decomposition of organic fluids, setting free alkalies or acids Levy-Dorn, Lassus, Meissner, attribute the lesions not only to the rays but also to the important role of the electric currents that are inseparable from the rays. Oudin, Barthélémy, and Darier advance the hypothesis that the influence of the rays is not directly on the skin, but through the intermediate action of the trophic nerves; and not alone the trophic nerves, but also the central nervous system is influenced, and this activity after the lapse of a certain length of time causes the development of trophic disturbances.—*Journal de Soc. de Méd. de Lille*, March 19, 1898.

The Tetanus Antitoxic Properties of the Normal Central Nervous System.—WASSERMAN and TAKAKI present a new method of securing artificial immunity against tetanus. In their investigations they mixed from 1 to 10 times the lethal dose of the tetanus poison with an emulsion made from normal brain and spinal cord. Control experiments were made at the same time with emulsions obtained from other organs as well as with the ordinary serum. They were able to show that, without exception, that normal brain and spinal cord substance possess antitoxic properties, whereas other organs do not. In numerous experiments, 1 c.cm. of brain substance neutralized 10 times the lethal dose of tetanus poison, whereas 1 c.cm. of spinal cord substance only neutralized 3 times the lethal dose. They succeeded in immunizing animals by the injection of emulsions of brain and spinal cord as late as 24 hours after the injection of 3 to 5 times the lethal dose of tetanus poison. The foregoing experiments demonstrate that the power possessed by the central nervous system of combining with the tetanus poison exists during life. The emulsions were obtained from the brain and cord of guinea pigs, and also of pigeons, rabbits, horses, and the human subject. Neither the clear fluid obtained from the centrifugalization of the emulsions nor the cerebro-spinal fluid itself possessed antitoxic properties.—*Berliner klin. Wochenschrift*, Jan. 3. 1898.

Infection by Inhalation of Dried Tuberculous Sputum.—Experiments in this direction have generally been unsuccessful. The present experiments made by CORNET with such successful results were conclusive only when the most natural conditions were adhered to All the animals had extensive disease, the disease affecting the lungs, with great emaciation, the spleen, liver, and portal glands The method he followed was as follows: Sputum from a bad case of phthisis, but not in an acute stage, was spread over a carpet in a closed room, mixed with a little dust and allowed to dry, and after two days all the animals were admitted into the room in three groups. One he placed in the corner upon stages raised from 20 to 70 ctm. above the floor, when the floor was swept in the usual way with a stiff brush, a cloud of dust being raised. The second group was submitted to direct inhalation. The sputum was put into a glass, dried and pulverized, and held at a distance of 20 ctm. from the animals A third group was allowed to remain quietly in the room, nothing further being done. The speaker protected himself by wearing an overall coat reaching to the feet, and covering his head with a hood with two openings filled with glass to see through and breathing through. In spite of these precautions, however, he was able to infect two guinea pigs with the mucus from his nasal cavity. The reasons for his previous want of success in his experiments he thought lay in the fact that the expired air from the lungs of the guinea pigs contained so much vapor that the dust soon "balled," and did not penetrate beyond the nasal passages —*Medical Press and Circular*, April 13, 1898

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. Hoisholt, M.D., Assistant Physician, State Asylum for Insane,
Stockton, Cal.

A Case of Alcoholism with Hemiplegia and Consecutive Epilepsy in a Child.—Drs. Bourneville and Rellay report a case of this kind in a child four years old, in whose family there was a history of a number of nervous diseases The child had the opportunity of getting liquor habitually in large quantities. Following the consumption of an unusually large quantity of spirits symptoms of an acute alcohol intoxication set in, and with it an attack of convulsions and a loss of consciousness lasting several days. Afterwards the left side was found paralyzed, the paralysis disappearing gradually, but only to a limited extent, the left arm remaining quite useless. After this attack the patient became subject to epileptic fits, which occurred at first once a week, afterwards daily, and sometimes several on a day, one after the other. The child showed loss of intelligence, and became violent and irritable, and a stationary condition in the development of the right side became noticeable. Five years after the first attack the child commenced to fail rapidly. She lost in flesh, became more and more filthy in habits, and subject to spells of fear; the temperature remained subnormal. Finally a lung complication set in and she died. Sensibility had always been intact, but her speech was hesitating and slow, and she had never been able to read, write, do the simplest arithmetical computations, or to wash or dress herself. The *post-mortem* examination showed the presence of an extensive pachy and lepto-meningitis, and adhesion of the meninges to the underlying cortical surface. The right cerebral hemisphere was very much diminished in size, the convolutions surrounding the fissure of Rolando and the fossa of Sylvius were especially atrophic, exposing the island of Reil. The remaining surface of the hemisphere, especially of the paracentral lobe, and the anterior and posterior central convolutions, showed traces of sclerosis, and the results of a meningo-encephalitis were observed about the superior and ascending parietal and second temporal convolutions about the corpus callosum and where the temporal pass into the occipital lobes. The cortex was in places completely destroyed. The encephalo-meningitis was even more diffused in the left hemisphere, but the degeneration did not extend into the depth as on the other side The authors consider alcoholism the cause of all the disturbances. In the adult delirium tremens would have shown itself, but in the child alcoholism takes the form of convulsions, which in this case lead to the development of the atrophic sclerosis of the right hemisphere, and secondarily to degenerations of the crura cerebri and muscles. The temperature center must have been affected, as shown by the constant subnormal temperatures which before death was diminished to 18° C. (64.4° F.).—*Progrès Medicale—Centralblatt f. innere Med.*, May 21, 1898.

Resection of the Superior Cervical Ganglia in Cases of Epilepsy.—Dr. A. Chipault reports the results of a successful resection of both upper cervical sympathetic ganglia in idiopathic epilepsy. The operation was performed without special difficulty in two *séances*, at an interval of three days. A considerable dilatation of the pupil of the opposite side, which followed the first operation, disappeared after the second. After the first operation the attacks ceased, and immediately after the second a most remarkable change in the whole mental status of the individual set in. The patient, who previously had been sleepy and apathetic, became jolly and talkative, read most of the time, and his eyes had an animated expression, etc. Based upon this and other, previously published, favorable results, the author thinks the bilateral resection of these sympathetic ganglia deserves recommendation in idiopathic epilepsy, especially as the operation is not a dangerous one, and is not followed by serious after-effects. He also thinks the operation might be of therapeutic value in certain cases of idiocy and other mental diseases.—*Gaz. des Hôpitaux—Centralblatt f. innere Med.*, May 21, 1898.

The Operative Treatment of Epilepsy.—In considering the question in which cases an operative treatment should be instituted in epileptics, DR. H. H. V. EIJK, in his dissertation, quotes the opinion of his teacher, Prof. Winkler, that idiopathic and focal epilepsy are too frequently contrasted as two distinct forms of disease. While it is a fact that in all cases the epileptic attacks must be regarded as the manifestations of brain affections quite distinct in character, the location and nature of the affection can in a given case only be determined by the different symptoms forming the clinical picture. The explosion theory of Hughlings-Jackson is in the opinion of the author to a certain extent applicable to all cases of epilepsy, according to which a diseased part in an otherwise healthy brain leads to explosions, causing convulsions with loss of consciousness. Dr. v. Eijk reports 10 cases of his own observation treated by operation, and has collected 100 from the literature, which all seem to prove that there is no material difference between idiopathic and symptomatic epilepsy. Of 13 cases dependent upon subdural hemorrhage, 11 were cured, although all were serious cases of status epilepticus, and excluding two non-traumatic cases, 10 out of 11 cases were cured. According to this an epilepsy—or more properly status epilepticus—due to a traumatic subdural hemorrhage, should always be treated operatively. The other cases reported were: (1) Eighteen epileptics, the causes of which were looked for above the dura, such as depression and adhesion. In these cases trepanation or temporary resection without opening of the dura was made. Three cases were cured, 10 much improved, 5 cases remained stationary. (2) Twenty-six idiopathic epileptics, in which trepanation with opening of dura was made. Of these 2 died, none were cured, 16 much improved, 3 remained stationary, and 5 became worse. (3) Thirty-eight cases of epilepsy, in which either splinters of bone, cysts, cicatrices, or superficial spots of softening were removed from the brain. Two of these died, 3 were cured, 26 improved, and 7 remained stationary. (4) Eighteen epileptics, in which a certain part of the brain was removed, which apparently did not respond to electrical stimulation. Of these 1 died, none were cured, 9 improved, 7 remained stationary, and 1 became worse. These results are fairly satisfactory, if one considers the unfavorable reports of bromide treatment.—*Centralblatt f. innere Med.*, June 18, 1898.

Some Statistics Regarding the Criminal Insane.—DR. EDWARD H. WILLIAMS, of the Manhattan State Hospital of New York, has recently examined the criminal records of New York State prisons and insane asylums, including the Matteawan State Hospital for insane criminals, as to the actual mental condition of all classes of murderers who have been apprehended during the past 25 years. Of the 459 murderers apprehended during this period, 40 per cent. have been confined in insane asylums since their crimes were committed, and fully 30 per cent. were insane at the time of their crime. A particularly surprising fact found by the investigator was that the records showed that fully 20 per cent. of all the murderers apprehended should, long before their crimes were committed, have been confined where they could not harm other people, their mental aberrations having been so pronounced, of such a character, and of such long standing, that there was no reasonable excuse for their being allowed at large. In illustration of this last point, the writer quotes the following case which happened a few months ago: "A young man, who lived in New York city, and who had always been a quiet and inoffensive boy, gradually became so erratic, eccentric, and obviously unbalanced mentally that his family became alarmed at some of his actions, which were sometimes very threatening. They accordingly called in a competent physician to examine him, who, after carefully studying his condition, pronounced him insane, and advised his immediate removal to some institution for the treatment of mental disorders, as he considered him a dangerous man to be at large. This did not satisfy his relatives, who accordingly called in another medical man; but he also made the same diagnosis, and advised immediate confinement of the patient. His friends, however, concluded that the very best form of treatment would be to have him to fall in love with some suitable young lady. Accordingly they laid all manner of plans to have him thrown much of the time into the company of an amiable and unsuspecting girl. Things were getting on nicely with the young people until one evening when, without cause or warning, he drew a revolver and shot his sweetheart." "In this case," the writer says, "there is little doubt that a murder should have been prevented; and the records show that this is only one case in many." He mentions that Dr. H. E. Allison, Superintendent of the Matteawan Hospital, has recently published some statistics which explain why the plea of insanity is not more frequently resorted to by lawyers, even when there is evidence their client is insane He finds, namely, that the average length of term of confinement of prisoners (including those with life sentences), is only a trifle over two years, while the average length of term of confinement in the asylum for insane criminals is over four years (practically twice that of prison life). The prevalent idea is that feigned insanity is a common "dodge," frequently resorted to and often successful, but as a matter of fact there are on record only two such cases during the last decade in New York State. On the other hand, insane people are constantly being condemned to death or penal servitude, regardless of their mental conditions. He quotes a case in which the crime was practically motiveless, the individual having been released from an insane asylum only a few months previous to the time the crime was committed. In conclusion, Dr. Williams says the general public should learn that mental diseases are difficult to detect, and that the opinion of the average citizen, lawyer, judge, or physician is of little value as compared with that of an experienced alienist. Until this fact is generally recognized by the men in the jury box, justice is sure to miscarry in a large percentage of cases.—*Medical Record*, April 9, 1898.

Syphilitic Epilepsy.—Dr. Kowalewsky describes two forms of syphilitic epilepsy—a hereditary and an acquired. The former is most frequently met with as a medullary epilepsy, the result of a congenital weakness of the nerve-centers, but it also occurs as a cortical form. The latter may originate from circumscript gummous formations, and then has a typical course, but it may also be caused by gummous processes of a diffuse character, in which case the course is more uncertain, accompanied by inhibitions of development and congenital malformations. Kowalewsky holds the opinion, which is based upon his own observations, that the medullary form is caused by infection by the father, while the cortical form he associates with infection by the mother. The cortical epilepsy due to acquired syphilis has four different forms. The first is caused by solitary gummata of the cortex or the meninges; the second by diffuse gummatous processes of the vessels of the cortex or its coverings. The third is brought on by absorption of luetic material, following energetic anti-syphilitic treatment. The fourth by cicatrices resulting from the healing or atrophy of gummata, which is one of the most stubborn forms of syphilitic epilepsy. The writer finally mentions a rare form of medullary epilepsy, demonstrated by Fournier, which is met with during the secondary stage of syphilis.—*Berliner klin. Wochenschrift—Centralblatt f. innere Medicin.*

The Psychology of Laughing.—DRS. G. S. HALL and A. ALLEN have analyzed the results of an examination of nearly 3,000 persons, and found that the first indication of laughter may in exceptional cases be seen in almost any part of the body, but it is most frequent in the eyes, and next in frequency at the mouth. The eyes become brighter, smaller, and oscillate, and the mouth opens, stretches, and curves upward, but sometimes downward. In a few cases the laugh begins with dimples in the cheeks, in others with a movement of the muscles just below the ears, or a throwing back of the head. Subjectively the "funny feeling" may begin in the stomach, throat, head, diaphragm, face, etc. Sometimes beauty is evoked or increased, or ugliness is produced. The eyes sometimes open, sometimes shut, sometimes grow dull, both lids may tremble and the eyeballs may twitch, grow rigidly fixed, or roll wildly, or they may be turned upward and inward, and they are often suffused with tears The after effects of a hearty laugh were described as exhaustion, heavy breathing, fatigue, shame, weakness, soberness, sadness, relief, weakness localized in various parts of the body, deep sighs, giddiness, perspiration, headache, stitch in the side, soreness, thirst, chills, sleepiness, uncontrollable movements, nausea, tears, fear of impending disaster, breathlessness, etc. A laugh is, according to Dr. Hall, not unlike an epilepsy from the aura, at which stage it may be checked, to the subsequent exhaustion. In a number of cases laughter was evoked by news or sights really sad.—*American Journal of Psychology—Journal Nervous and Mental Disease*, April, 1898.

Nature of the Convulsions Accompanying Suicide by Hanging.—In a recent article DR. KOMPE says that the most prominent general symptom observed in the cases hitherto published of resuscitation of persons who had attempted suicide by hanging, is the typical development of convulsions just prior to a return to consciousness. The different authors describe these convulsions differently, as epileptic, epileptiform, tetanic, and clonic, and are either ascribed to hysteria present, or to mechanical causes. Dr. Kompe draws the following physiological conclusions from observations made by himself in a certain case: The disturbances in the brain caused by the strangulation are principally dependent upon three factors—the asphyxia, the occlusion of the carotids, and the pressure upon the vagus, the latter factor being one to which hitherto but little attention had been paid. This compression of the inhibitory nerve of the heart the author considers very important etiologically, as this alone can produce convulsions. He sees no reason for the assumption of the existence of psychopathic causes.—*Neurolog. Centralbl.—Centralblatt f. innere Medicin.*

FORMULÆ.

By H. E. SANDERSON, Ph.B., M.D., Assistant Physician State Asylum for Insane, Stockton, Cal.

Local Treatment of Chronic Peritonitis.—Where the meteoric distension is not great the following ointment affords relief:

Ungt. ichthyol. .... ℥i.
Ungt. belladon. .... ℥ ss.
Ungt. hydrarg. *q. s. ad*. . ℥ ii —M

Sig.—Apply three times a day.

For tympany, turpentine stupes, the rectal tube and injections, such as the following:

Olei terebinthinæ .... ʒ ii.
Fel bovini .... ℥ ii.
Mist. asafœtidæ .... ℥ iv.
Aquæ .... ℥ vi.—M

Sig.—For high enema.—*Medical Review of Reviews.*

Hemorrhoids:

Chrysarobin. ..... 0.75 cgm.
Iodoform .... 0.30 cgm.
Ext belladon..... 0.60
Vaselin. .... 14 0 gm.

Sig.—Ointment for hemorrhoids—*Journal de Médicin de Paris—Medical Record.*

Mercurial Ointment for Croup.—FORTEL and ROOS commend the inunction of 10 to 12 grammes of mercurial ointment for croup. It is said to quickly relieve dyspnea—*Archives of Pediatrics.*

La Grippe.—Benzoate of soda, according to the *News*, has proven of great service in *la grippe*. For the muscular symptoms the following is excellent:

Sodii benzoat. ...... ʒ ii.
Salol. . ... ʒi.
Phenacetin. .... gr. xxxvi.
ft. chart. No. 12. . .

Sig.—One every 4 hours.—*Gaillard's Medical Journal—North Carolina Medical Journal.*

Salicylic Acid for Chancroid.—DR. SZÁNTO, of Hungary, considers that the best treatment for soft chancre is the application on gauze of:

Acid. salicylic.......... gr. xv
Vaseline................ ℥i
Tinct. benzoin .... ʒss

—*Medical Week.—Buffalo Medical Journal.*

Trachoma and Pannus:

Tincture iodine. .
Glycerine......... Equal parts

Sig.—To be applied to the everted lids, after cocainizing. Use two or three times a week.—*Medical News.*

Warts.—Apply a supersaturated solution of bichromate of potassium once a day.—*Medical News.*

METEOROLOGY.

Summary for April, 1898.—*Temperature.*—The normal temperature of the State for April is 58.8°; the average for April, 1898, was 60.9°, a departure from the normal of +2.1°; the highest monthly mean was 84.3°, at Volcano Springs; the lowest, 39.7°, at Bodie. The maximum temperature was 118°, at Volcano Springs, on the 25th. The minimum, 9°, at Bodie, on the 4th. The absolute range for the State was 109°. The greatest monthly range was 78°, at Elsinore; the least, 29°, at Eureka.

Rainfall.—The normal precipitation for the State for April is 2.03 inches; the average for April, 1898, was 0.41 inches, a departure from the normal of 1.62 inches. The greatest monthly precipitation was 4.40 inches, at Cape Mendocino; the least, nothing, at many stations.

Wind.—The prevailing direction of wind was northwest.

Unusual Features.—There were no unusual meteorological features for the month of April.—W. H. HAMMON, Forecast Official and Section Director.

California—Tabular Statement for April, 1898.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean	Highest	Lowest	Mean Highest	Mean Lowest	Mean Daily Range	No. of Days Rain Fell	Total Rainfall		No. of Clear Days	No. of Fair Days	No. of Cloudy Days	Prevailing Direction.	
Auburn ....Cal.	59.1	89	40	------	------	------	1	0.49	------	22	0	8	N.E.	Southern Pacific Company.
Berkeley......... "	54.3	85	41	65.1	47.6	------	1	0.19	------	15	9	6	S.	Obs. University of California.
Colfax............ "	58.5	85	39	------	------	------	1	1.38	------	27	1	2	N.	Southern Pacific Company.
Coronado........ "	------	------	------	------	------	------	----	----	------	----	----	----	------	H. A. Masac.
Eureka........... "	48.8	64	35	54.3	43.4	------	10	2.78	83.0	10	9	11	N.W.	Weather Bureau Dept. Agr.
Fresno........... "	65.6	101	39	81.0	50.3	------	0	0.00	------	25	5	0	N.W.	" " "
Keeler .... "	68.0	99	45	------	------	------	1	0.05	------	16	12	2	S.	California and Nevada R. R.
Los Angeles.... "	63.0	99	41	74.0	51.0	------	1	0.03	68.0	15	12	3	W.	U. S. Weather Bureau.
Monterey .... "	55.5	72	42	------	------	------	3	0.24	------	18	0	12	S.W.	Southern Pacific Company.
Napa........... .. "	57.8	93	34	73.9	41.6	------	2	0.34	------	15	14	1	S.W.	Station Napa Insane Asylum.
Oakland......... "	56.9	84	40	67.3	46.6	------	1	0.19	------	11	17	2	S.W.	Chabot Observatory.
Paso Robles.... "	55.9	97	33	72.4	39.4	------	0	0.00	------	25	0	5	N.	Agr. Experimental Station.
Red Bluff....... "	64.5	96	43	78.0	51.0	27.0	2	0.63	42.0	18	10	2	S.E.	Weather Bureau Dept. Agr.
Sacramento..... "	61.4	89	39	75.5	47.8	28.1	2	0.28	55.0	19	10	1	S.E.	" " "
San Bernardino "	63.9	102	32	80.5	47.3	------	3	0.48	------	19	8	3	W.	A. K. Johnson, M. D.
San Diego....... "	59.1	86	45	65.3	52.9	------	4	0.22	77.0	18	3	9	N.W.	Weather Bureau Dept. Agr.
San Francisco.. "	54.5	87	44	61.4	47.5	13.9	1	0.19	78.0	17	13	0	S.W.	" " "
Santa Barbara.. "	60.2	95	40	70.8	49.7	------	0	0.00	------	20	4	6	W.	Hugh D. Vail.
Santa Cruz...... "	57.4	95	36	------	------	------	3	0.52	------	19	5	6	S.W.	Ralph Springer.
Yuma...........A. T.	73.5	107	44	89.7	57.3	33.2	1	0.01	35.0	19	10	2	S.	Weather Bureau Dept. Agr.

Blank (----) indicates data missing.

Occidental Medical Times.

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: JUNE, 1898.

THE COMMENCEMENTS—COLLEGE OF DENTISTRY.

The Commencement Exercises of the College of Dentistry, University of California, were held at Berkeley, on May 18th, in conjunction with those of the Medical and Academic Departments. The exercises took place in a temporary canvas pavilion erected upon the University campus. There were no special ceremonies, the whole being conducted in a very simple and impressive manner. The degrees were conferred by the President of the University, PROFESSOR MARTIN KELLOGG. After the ceremonies a lunch was given by the associated alumni, at Harmon Gymnasium, where the assembled guests taxed the capacity of the large hall to its utmost. The innovation of holding a joint graduating ceremony seems to have been most successful, and will, no doubt, largely aid in the development of a University sentiment amongst the associated professional Colleges.

The following are the names of the graduates: H. G. Allen, J. H. Atkins, P. B. Aiken, Mabel Lucile Beers, J. Cline, J. H. Cooper, H. T. Craig, C. H. DuBois, A. L. Edwards, W. B. Estes, H. W. Gottenberg, N. S. Halsey, W. D. Henderson, A. J. Hiniker, I. L. Hinckley, P. C. Jones, Minnie Evangeline Jordan, C. F. Lemmon, W. R. Linscott, Flora Mae MacDonald, L. P. Moriotte, C. L. McPike, H. O. F. Menton, C. L. Morey, F. B. Pearce, J. B. Painter, Helen Agnes Parker, A. C. Pratt, A. C. Rulofson, Jr., G. E. Schillig, F. T. Scott, F. C. Sellwood, E. K. Sisson, T. M. Smith, W. J. Smyth, J. M. Stalder, G. G. Stanford, C. J. Stephens, G. H. Stewart, W. A. Walden, F. D. Watkins, C. R. Wilcoxson, Jean Irene Worthington, G. H. Wymore.

The total number of students in attendance during the past session was 162; the number of matriculates being 55.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, April 26, 1898.

The President, F. R. WAGGONER, M.D., in the Chair.

DR. A. M. HENDERSON read a paper on "The Diagnosis and Treatment of Diphtheria." [Published at p. 288.]

DR. THOS. ROSS: The author has presented a very interesting paper on an interesting subject. It is specially interesting at this time because there is not a member of this Society who has not had more or less experience in the treatment of this disease in the past year. As regards making a diagnosis, the greatest difficulty is in the early stage of the disease, as between diphtheria and follicular tonsilitis. However, in diphtheria, generally, the diphtheritic patch or membrane is surrounded by an area of inflammation. Another good diagnostic symptom is that the membrane in diphtheria is attached to the mucous membrane of the throat and cannot be removed without causing slight hemorrhage from the membrane, and the exudation over the crypts of the tonsils can be removed early and easily, with a swab; it is about the best diagnostic symptom between the two diseases. A bacteriological examination showing the bacilli of diphtheria, or course settles the question. It is rarely a mistake is made in diagnosis in scarlatina, owing to the high fever, quickness of the pulse, and in a short time the appearance of the characteristic rash of scarlatina, and, besides the early symptoms, the strawberry tongue will prevent a mistake in that disease. I would say that in making a diagnosis between follicular tonsilitis and diphtheria in the early stage, if there be extension over the tonsil of the membrane and to the root of the mouth it settles the question as to its being diphtheria and not follicular tonsilitis, and if laryngeal symptoms occur it also shows the disease to be diphtheritic. Regarding the treatment of diphtheria, I think in these days when we place so much dependence on the serum treatment of the disease—the use of antitoxines—that there is some danger in our placing too great dependence upon it and neglecting measures that we have heretofore found to be of great value. I believe, too, that diphtheria is a local disease and that the absorption of the ptomains produces a specific condition of the system, and believing that, as I do, I place great emphasis on the early treatment of the disease. The treatment I adopt is a combination of carbolic acid, tincture of the muriate of iron, glycerine, and water, applying it to the throat promptly. It is of little or no benefit when used at intervals of three or four hours. It is of the greatest benefit when applied every half hour, especially in the beginning of the disease, where the treatment is isolation, ventilation, proper hygienic measures, and nourishment. I am a firm believer in stimulants from the beginning to assist the patient to overcome the inroads of the disease, and it assists the operation of the antitoxin. I see that Welch, of Baltimore, has collected 7,166 cases treated by antitoxin, and showing a mortality of 17.3 per cent., which is a very low mortality, as quite a large number of those cases were treated in hospitals and quite a large number were sent there for intubation or tracheotomy. Any physician who has used antitoxin cannot but have observed its prompt action—the lessening of the fever, the decrease in the nervous symptoms, and inside of twenty-four hours, the lessened exudation. It is also claimed that we have fear of sequelæ from the use of antitoxin; such as nephritis, bronchitis, pneumonia, and so on. There are cases, however, in which antitoxin should not be used. It should not be used in cases of mixed infection, where you have got other conditions combined with diphtheria. It should not be used in moribund cases or where there is positive evidence of large quantities of albumin in the urine. In cases that resemble true septicemia it should not be used.

DR. H. L. NICHOLS: I have had very little experience in administering serum in cases of diphtheria. It would be presumptuous on my part, after the voluminous evidence brought before us from all parts of the country, to offer any doubts as to the efficacy of the serum treatment. I believe, however, that the statistics which have been presented to us have possibly not been quite fair. I have no doubt that the serum has been used in hundreds and thousands of cases that were not diphtheria, and that would have done as well, and perhaps better, without it, so that the percentage has been made to appear very much more in its favor than it properly should I have seen quite a number of cases that have been diagnosed as diphtheria which I am well satisfied were not such, and then at times there are cases which you cannot possibly decide without a microscopical examination. I know many cases that have been diagnosed as diphtheria which were not, and probably would have been as well and better off without antitoxin. I have in mind cases where I have been called in, where I discouraged the use of antitoxin, not believing it was diphtheria, and not necessary, and it was postponed and the patients did remarkably well. Another thing also that we all know, that certain diseases are, at certain periods, more severe than at other times. Since the use of serum in our own locality here, I believe that we have not had anything like the marked epidemics of diphtheria that we have had ten, fifteen, or twenty years ago. No doubt we have had serious cases since then, but most have been comparatively mild. Thus, I hardly believe that the serum has been fairly tested, but, as I said before, I could not, with the evidence before us, offer the slightest objection or doubt its efficacy. However, a local application has my preference, and it seems to me, works remarkably well. I use subsulphate of iron and chlorate of potassium, giving nourishment freely and stimulating from the commencement.

DR W. E. BRIGGS: I was very much pleased with the paper and believe it presents the subject in the correct light. I agree, as far as I know of the disease and its treatment. with the author of the paper. I have had very little experience in the treatment of diphtheria; in fact none, in the sense of treating cases from beginning to end. Occasionally a case of diphtheria wanders into my office, in which event, I always refer the patient to some competent physician in general practice. I have occasionally been called in consultation in cases of laryngeal diphtheria, and especially in cases where tracheotomy seemed to be necessary. I have noticed since antitoxin has been introduced I have not seen so many of those cases, and which I believe to be, in a great measure, due to the general use of the serum, and from my reading I observe this to be the experience of men in many sections of the country. I have no doubt in the least that a great many cases that are not diphtheria, are diagnosed as such. I believe also that it is impossible to distinguish true diphtheria from other conditions of the throat—clinically, in all cases. The only way to be positive in diagnosis is, as the author recommends, by a bacteriological examination to aid the clinical diagnosis. I think there are many cases in which the diagnosis cannot be questioned, and in these a bacteriological examination would only be of scientific interest. In doubtful cases I think such an examination is very essential, but if there is very much suspicion in the mind of the attending physician as to the case being diphtheria, I think it would be far better to administer antitoxin rather than wait, because you are losing valuable time. I believe every city ought to have a bacteriological institute where examinations could be quickly and properly made. Many people who have diphtheria in their families are not able to have such examinations made, and, therefore, have been allowed to go on without any degree of certainty, thereby exposing other members of the family, while a proper examination promptly made would have cleared the matter up In this way the disease would have been checked early and the necessary precautions taken. I believe the immunizing effect of antitoxin has checked the spread of the disease in a great many instances. It is shown by experimental research that immunization has the effect of checking the spread of the disease; as the author reported, it has been shown very clearly in the hospital in which he observed it—the effect being so definite as to be unquestionable. An epidemic in that institution had been severe previously, and the spread had been constant. I believe the effects of the immunizing treatment were so positive that it seems to me one can hardly doubt the relation of cause and effect, and I believe that such epidemics in the future will be less severe than in the past, on the same ground.

DR. J. H PARKINSON: The two points on which the author lays the most stress are evidently the diagnosis, bacteriologically speaking, and the treatment by the new method—antitoxin. Diagnosis and treatment are of most importance in the management of any disease, but in the matter of diagnosis in diphtheria, I feel as other speakers feel, that there will often be a difficulty and a doubt in the diagnosis of this disease. I am not prepared to rely exclusively on any method of diagnosis. Clinical diagnosis comes first; as bacteriological diagnoses are only possible in the large centers. Now I believe it will always be impossible to positively diagnose every case of diphtheria, as diphtheria at first, or, perhaps, at all. I think it is a safe rule to regard all cases in which there is a membrane on the throat as infectious I have seen enough to demonstrate that to my own mind I have seen cases that I would ordinarily not suspect of being diphtheria, but subsequent developments in the same family, with cases of undoubted identity, proved conclusively that the doubtful one was diphtheria. These were diagnosed clinically. It is quite possible that a bacteriological examination in those cases might have cleared the matter up. The evidence was very slight, the membrane not positive, and it could be wiped off without leaving a bleeding surface. I am not decrying bacteriological examinations I believe, however, in maintaining the standard of clinical diagnosis. As regards the use of antitoxin, I think it is the best agent we have for the treatment of this disease, but personally, I feel that it is a great mistake to depend upon antitoxin alone. In the first place it is against all reason in the practice of medicine, from a theoretical standpoint, assuming that we discuss it from that standpoint. It is opposed to the whole theory of resistance of the system: the theory of natural immunity; the reason why some people pass through epidemics and others succumb. It is the absence of that condition that implies resistance, that causes so many unfortunate results in surgical operations While I recognize that the streptococcus infection in some cases is mild and in others malignant, there must be a determining factor—why in one the disease is comparatively mild and assumes a malignant form in others. This condition is generally to be found in the particular individual. I do not believe it is due to the special virulence of the germ. I think in that particular type of a disease in which is manifest all the attributes of a typhoid condition of the system, constitutional treatment and stimulation should be followed up. I cannot agree with the author as regards not using force, except in such a condition as would endanger the life of the child by raising it up. If the child is in fair condition, it is folly to avoid local treatment simply because you are going to have a fight. I would carry it out energetically. I should adopt specific or serum treatment first of all, local, second, and stimulation with constitutional treatment last. I regard this as very important. I am not prepared to rely upon antitoxin alone; at the same time I think it is the best thing we have with which to combat this disease I have seen cases that did as well without antitoxin as they have done with it I am not, at present, making a great deal of change even with the use of antitoxin. I think the question raised by the author to-night, must come up by-and-by, that is to say whether we are going to use antitoxin in all cases, whether in doubt or not. As regards the question of danger, if an error in the diagnosis is made and antitoxin is used, are we placing the patient in a worse condition? I think not, and I believe that even a fair dose of antitoxin, in a child, for instance, is not going to injure it materially. If it be a mild case a small dose can be given. It is not necessary to use the doses sometimes advocated. I am not prepared to say what my position may be, but I think we will come to that in the future As regards immunization, my experience is not extensive; I am prepared to immunize any one who wants it. That position, however, it took me some time to assume There have been fatalities with it, and in general practice we must be prepared to answer the queston, "Is there danger in its use?"

Dr. G A. White: The new method of treatment, namely, the antitoxin treatment, has revolutionized diphtheria. It has placed it in the category of curable diseases—curable in nearly all cases in which the early administration of antitoxin is practised. During the last year there has certainly been a greater number of cases in Sacramento than in any previous year of which I have any knowledge, and the deaths that have occured have been those in which antitoxin has not been used or in which it has been used later than the fourth or fifth day. I saw, during the winter, about 35 cases, and I am very glad to say that not one of them died in which we handled the case early. Deaths occurred in families in which I had diphtheria patients, but they were those handled by gentlemen who were not prepared to accept antitoxin as their line of treatment. The dosage in which we used it during the winter has been 1,500 to 2,000 units. I have used it in immunizing doses from 750 to 1,000 units In no instance in which immunization has been resorted to has the disease shown itself. There was one case of urticarial rash and one resembling measles. These finally cleared up without any bad effects. There was also one case of diphtheritic paralysis which has also cleared up. By the old plan of treatment, with iron, quinine, and arsenic, in that number of cases you would usually have not less than four or five cases of diphtheritic paralysis. The serum treatment has robbed the disease of its terrors. I cannot agree with Dr. Ross in his views that diphtheria is not likely to be confounded with scarlatina. I have seen ulcerated throats in scarlatina which very much resembled diphtheria and in which it was impossible to make a clinical diagnosis. I feel that we should all accept doubtful cases as diphtheria and not wait for a bacteriological examination, as valuable time is lost, and the antitoxin will, in my experience, cause no ill effect other than its cost, and while it is somewhat expensive it is really cheaper than the old plan, as it shortens the course of the disease. I have about given up the subsulphate of iron solution as a local application in diphtheria. I do not think it is as good as bichloride of mercury or permanganate of potash. I use bichloride in tolerably strong solution and pyrozone by the atomizer.

Dr. T. W. Huntington: I want to say at the outset that my own experience in the management of diphtheria is as limited as that of most members present. It is rather strange that, during the past winter, with an epidemic which was pretty general throughout the city, it has been my good fortune not to see a single case in my own practice; it is a singular fact, as I am making some calls every day in families, and while my outside practice is not as extensive as that of some, I have been doing work amongst children and amongst all classes of people and in houses which were occupied by other families where diphtheria was present, and yet, for some excellent reason, I have not run across a single case in my own practice. It seems to me that the modern treatment is efficient and possesses more prophylactic power than any other form of treatment of which I have any knowledge. Its efficiency is so well established that I believe it is needless to waste any time in discussing that particular point. I believe that through its influence diphtheria will disappear, and that the time is coming when we will know as little of it as we do of small-pox. I believe that in ten years we will not see one case where we have seen a hundred, in a given period; in a word, I think it will disappear from the list of diseases. I now wish to say a word with regard to the local treatment of this disease. In my early experience, some years ago, I dealt with it somewhat, and I never failed to be impressed with the inhumanity of local applications to the throats of children. I never felt satisfied with the efforts I put forth, in that respect. The idea of going into a house for four or five days to have a physical struggle with a child has lacerated my feelings, to say the least, and I believed that the time would come when I would be entirely relieved from such a responsibility. I think that time has come, in spite of the fact that many careful observers still maintain that local treatment is not to be abandoned. It seems to me that the evidence of men who are not using local treatment is as conclusive as that of gentlemen who are using both local treatment and antitoxin combined. I treated two cases of diphtheria after I returned from New York, being about the first of the early cases in which antitoxin was employed in this city. Both of these I thought would die. The symptoms were very positive. Two doses of antitoxin, without local treatment, sufficed. Recovery was rapid. I believe we may rid ourselves of the annoyance and unpleasantness of grasping, holding, and running a swab down the throats of children. I should not pursue that course if called upon to handle such a case. I will say in addition to this, that I cannot adopt the teaching of Dr. Henderson, or his teachers, with regard to fumigations. I should, however, resort to stimulation and tonic treatment as in any other case where the conditions demanded it. I am very glad, indeed, that this matter has been brought up.

Dr. F. L. Newton, of Woodland: I am on the Board of Health in Woodland, and observe all cases reported to us. We have had about 40 cases, with 10 deaths. Not one of these cases which died had antitoxin before it was too late. Some of them did not have it at all. None of them had antitoxin at the beginning.

Dr. L. A. Harcourt: I would like to have one or two points settled, if possible. It has been stated that antitoxin should not be used in mixed infection and in severe cases. It seems to me that is the main point to determine Some say use it in all cases, and early. That question has not been clearly answered. Another question is this: whether those who have used antitoxin most largely, have the courage of their convictions and can say they rely upon it exclusively. If not, then of course the results are uncertain. I have used it myself in seven or eight cases, and I am not prepared to say whether it was the antitoxin that cured the patient or whether the local and constitutional treatment cured, or whether both combined. I did not have the courage of my convictions. I agree with Dr. Ross when he says that if the disease is local it is of local origin, and I believe, as Dr. White says, if you can reach it at the time then you will abort the disease. I believe the very best remedy is bichloride of mercury, and I have implicit confidence in its use in the beginning to abort the disease The trouble is that the physician hardly ever sees the patient until more or less absorption has taken place and the system has become poisoned. In such cases it will be of no benefit in neutralizing the poison, and we must resort to the antitoxin treatment.

Dr. Henderson: In reply to Dr. Harcourt I will say that I have the courage of my convictions to rely on the antitoxin alone. In several of the cases referred to, and in the one seen by Dr. Huntington, local treatment was partially discarded. As a rule I use local applications. However, I prefer that no local treatment be used if it is necessary to struggle with a weak patient to make the application. Often times parents and unskilled attendants struggle with the child and then fail to make anything like a satisfactory application of the remedy.

Dr. White: It seems to me it is asking a little too much of the profession to think that one specific alone will cure a dangerous disease—one of the most dreaded we have to deal with. Would Dr. Harcourt, or any other physician, undertake to cure malarial fever with quinine alone, and it is regarded as a specific in malaria. Or would any one confine himself to the use of mercury alone in syphilis? And, therefore, it seems to me it is an unreasonable question to ask if a man will confine himself, in a fatal disease, to one thing alone. We have, however, found something in the treatment of this disease that is the nearest to a specific of anything we have; it is next to vaccination in small-pox. It is most reasonable to use a local treatment in connection with antitoxin, such as peroxide of hydrogen. We do not find all diphtheria cases alike; we have just as great a variety in that line as we have in fractures, etc. It is absurd to ask if this or that disease will get well by using any specific treatment.

Dr. Harcourt: I simply asked the question in order to find out whether the men who spoke so highly of antitoxin, claiming it to be an absolute preventative—neutralizing the poison—had the courage of their convictions, and whether, in serious cases. they would depend on it alone. I believe physicians should use every means proven to be of any use, in the treatment of that, or of any other disease, to secure the recovery of their patients. If I were absolutely certain that antitoxin would destroy the poison that found its way into the system and cure the patient, then I would give antitoxin alone and save the patient from the effects of local applications. As regards the order of treatment, I differ from those who resort to constitutional treatment in the beginning. Local treatment should be used first, next, antitoxin should be used, and constitutional treatment last.

Regular Meeting, May 17, 1898.

The President, F. R. Waggoner, M.D., in the Chair.

Dr. W. T. Huntington read a paper entitled, "Post-Operative Treatment." [Published at page 297.]

Dr. H. D'Arcy Power: The opening statement of the author's paper as to the value of routine treatment, whether in surgical cases or in medical, rather impressed me. The blind following of routine treatment in any general condition is, I think, sometimes a cause of failure; that is to say, all cases, by some men, are treated more or less alike, without any consideration as to the physical condition of the patient, or the physical temperament and underlying causes, which must have more or less influence upon their effecting a cure. You must not give the same treatment to a patient for diabetes and kidney affection in regard to nutrition, and to that extent, it seems to me, that routine is carried too far; patients are treated too much alike in post-operative cases. I have seen then given purgatives at a certain time, and of a certain character. I would like to hear as to the admissibility of saline purgatives in intestinal cases. External heat, as mentioned, is a great factor in dealing with shock, but I think very often patients are subjected to a temperature which is detrimental. In applying external heat, it is easy to change the end you have in view. In regard to opium as a reliever of pain, I have long been of the opinion of the old therapeutists, that opium is more than an anodyne. I am inclined to think that opium possesses further therapeutic value, and does tend to subdue inflammation. I think we often overlook that factor in the use of opium. I would like to hear from the author in regard to the use of poultices. My observations lead me to believe that cold applications are the best, but with people of low vitality, I doubt whether cold would not have a very deleterious effect. Beyond that, my ideas are in accord with those of the author—I prefer cold.

Dr. H. L. Nichols: As regards opium, I think very well of it in relieving pain, and at times it is an excellent stimulant. I favor it for those purposes. I have found that a poultice applied to a phlegmon gives relief. In regard to enemas, they are useful, especially following cathartics given by the mouth which have failed to act in a reasonable time.

Dr. L. A. Harcourt: There was one feature, that of rest, which the author omitted from his paper. I have always understood that it was a very important feature. Prof. Moore, of New York, said that rest was nine-tenths of cure in every surgical lesion. With the opium you secure rest. The after treatment amounts to very little. After the operation, with an aseptic condition and good circulation, we have a right to expect healing by primary union.

Dr. Thos. Ross: The local application of cold has a very beneficial effect on acute inflammations, and on hyperpyrexia. Poultices are now discarded by the profession. I wish to add my testimony in favor of the use of opium in surgical cases where you fear shock. I believe that an opiate given prior to the administration of an anesthetic, will greatly lessen shock. I am fully satisfied that opium is a stimulant and tonic as well as a narcotic. I remember treating an indolent ulcer on the tibia, of several years' standing, with local applications, strapping and washes, for about a year, with only temporary benefit. The patient lived in the country and called me in as I was passing her house, when I found that the ulcer was no better than it was when I commenced treating it. I looked over my case of medicine for a suggestion and finally gave her a bottle of laudanum, instructing her to take five drops three times a day. In ten days the ulcer began to fill up with healthy granulation, and in three weeks after, it was healed. No applications were used except a dry lint dressing—the patient being on her feet all the time while taking the tincture of opium. The treatment of surgical wounds is surrounded with fewer difficulties because they are always aseptic.

Dr. W. E. Briggs: I have been much interested in the discussion. As regards poultices, certainly, in my field of work, they do considerable harm. Two weeks ago a patient came to consult me who accidentally got lime in one of his eyes. He was treated with the constant application of poultices, and after two weeks a panophthalmitis with sloughing of the cornea was produced. I remember the late Dr. Whittell told me, nearly twenty years ago, that the doctor who ordered these poultices was even then very much inclined to poultice the eye. He had had a case from the same physician that had been poulticed—an eye affected with a corneal ulcer—until the eye was lost. I believe a great many eyes are lost from the application of poultices. There are few diseases of the eye where one can advise poultices unless he knows a great deal about eyes. It is dangerous to allow patients to resort to this practice without intelligent advice. There are conditions of the lids where poulticing is beneficial, but the same good effect can be obtained by the application of hot water, boracic acid lotion, or other less dangerous means. I believe that in the early stages, cold is preferable to heat in preventing inflammatory action. Ice water and ice compresses prevent inflammatory action far better than hot applications. I believe in certain stages of inflammation that heat does inhibit the formation of germs, and it has a most beneficial effect in aiding the absorption of inflammatory products, and, after certain operations.

DR. HUNTINGTON: Referring to the matter of "routine treatment," as suggested by the gentleman who opened the discussion, I wish to file an objection to the use of that expression. Every case must, in general, be a law unto itself, and no rules, save very general ones, can be established for the conduct of after treatment. This is specially applicable to the employment of cathartics as a post-operative measure. It is true that the bowels should be moved within 48 to 72 hours, but in certain cases I administer a cathartic within 24 hours and I have also permitted patients to go for four days without disturbance. In this, as in many other considerations, the thermometer is a tolerably safe guide. In the selection of a cathartic, my preference is for small, often repeated doses of calomel, followed, if need be, by epsom salts. I believe that opium should be used sparingly save where there are special indications requiring it. In a majority of my operative cases a single hypodermic injection of morphine during the early part of post-operative experience, is all that is necessary. Nevertheless, it must be remembered that opium administered in liberal doses, possesses positive stimulating qualities and may be properly employed with that end in view. Dr. Harcourt alluded to the importance of securing perfect rest after operations. This is obvious and the requirement is easily met after the more important undertakings. The point, however, should be accentuated in its relation to minor injuries, especially those of the hands and extremities in general. In the case of laborers who are anxious to return at once to work, it is often extremely difficult to impress them with the importance of perfect rest. Some of the most distressing incidents which I can recall from a long experience with such persons, have been due to lack of appreciation of this most important requirement. With regard to poultices, little can be added to what I have said in the paper of the evening. I believe this agent is passing I see poultices in use far less often than formerly, but still note them and their effects too often. I agree with Dr. Power as regards the temperature of the operating-room. It is my belief that patients suffer considerably from super-heated operating-rooms. I find in cold climates, in the East, some operating-rooms are heated up to 85° and 90°, and even as high as 95° F. I have seen a patient lying upon the table perfectly bathed with perspiration, and I have always maintained that such exposure is deleterious. I give my patients a large amount of pure air, and if it is necessary to employ a gas heater, I see that there is a current of air pouring into the room during the operation. In several instances I have known the air of a room thus heated to become so vitiated that it was positively irritating to the bronchial membrane.

DR. NICHOLS: I rarely use a poultice. The lead and opium fomentation is admirable. I believe in it. It is only occasionally that a poultice of flaxseed may be used. I have generally discarded that sort of poultice. Speaking of opium and its effects, I would like to mention one thing. I presume there is not a gentleman present who has ever witnessed a capital operation without an anesthetic. I have witnessed many capital operations prior to that time, and the usual course was to give the patient, if robust, a short time before commencing the operation, an ounce or two of brandy, and from a half drachm to a drachm of tincture of opium, and the effect was excellent. The stimulating effect of the brandy and the sedative effect of the opium helped the patient to bear the pain. For a man to sit down with his full senses and have a thigh amputated, it requires a good deal of courage. I believe Dr. Briggs said that in all accidents he preferred cold to heat. In cases of considerable injury to the tissues, cold would be improper; heat would be far superior. The warm application stimulates the circulation and brings the parts into a more natural condition. You take an injury where the patient is badly bruised and the life almost beaten out of him, if you apply cold I think you will have a good deal of difficulty to get up reaction, but with warm applications you do get it.

SPECIAL CORRESPONDENCE.

GERMANY.

[FROM OUR OWN CORRESPONDENT.]

The Surgical Congress.—Hemicraniectomy.—Transmission of Infection.—Behring's Tubercle Antitoxine.—Tropon Artificial Albumin.—Ether Drinking in Prussia.—A Sensational Lawsuit.—Premature Loosening of the Placenta.—A Bishop's opinion on Quack Practitioners.

Although I cannot but fear that the readers of the OCCIDENTAL MEDICAL TIMES are at the present moment far too much occupied with other matters to take any deep interest in our doings here in Germany, I will, nevertheless, venture to send you, as usual, a few short notes. For in spite of all political disturbances warfare abroad, and party contentions at home, the votaries of science are still steadily at work.

The Surgical Congress, which met at Berlin in April, was in many respects an interesting meeting. The chief topics for discussion were antisepsis and asepsis, operations on the stomach and intestinal tract, the treatment of empyema, and the surgery of the liver and gall bladder. Considerable interest was aroused by a paper read by Professor Doyen, of Paris, on the operation of hemicraniectomy, for the performance of which he gave many useful technical details. This operation seems, vulgarly speaking, to be quite the rage at present. The last number of the *Centralblatt für Chirurgie* contains descriptions of two different methods of this kind, by which large pieces of the skull may be excised and turned inside out with the appendant portion of the scalp serving as a hinge. All operators seem to be fairly unanimous in considering the operation quite a safe one. Apart from cases with serious complications, the flap excised heals in very kindly and firmly, after being replaced. Needless to say, in this manner the difficulty of operating for affections of the brain has been vastly lessened.

Of the other subjects under discussion I will only remark that with respect to antiseptics, the original historical tenets regarding aerial infection appear to stand a chance of seeing resuscitation. A series of experimental studies performed by Professor Flügge, of Breslau, have led to the adoption of various precautions to prevent the access of tainted air to wounds, at the surgical clinic there. Thus it has been repeatedly shown that the mouth, and especially carious teeth, are a favorable habitat of various kinds of microbes, many of which are pathogenic; and in coughing, sneezing, or even in loud speaking, they may well become dislodged. For this reason it is recommended to keep the mouth and nostrils of all engaged in the operating, guarded by a few layers of muslin or similar apparatus. Since these measures have been observed, Professor Mickulicz claims to have obtained far more perfect asepsis. Not that any one would be so careless as to cough or sneeze just over the field of operation, but Flügge has shown that minute particles of moisture, to which germs readily adhere, will remain floating in the air for quite a long time, even some hours, moving to and fro in the very slightest current of air, owing to their lightness.

The chief question, however, which these researches aim at solving, is the manner in which tuberculous and other infectious diseases are transmitted. One item worth mentioning is the fallaciousness of supposing fresh air in itself, or even wind, to possess any appreciable disinfecting powers. Pieces of stuff that had been charged with pathogenic germs proved, after having been exposed to a strong current of air for some time, just as virulent as ever. We are, therefore, cautioned against believing our persons or our garments capable of being purified by, let us say, a walk of even several hours. Flügge further believes that too much weight has hitherto been laid on the danger of dust in this respect. He points out that all attempts to infect animals by causing them to inhale tubercle laden dust have, almost without exception, proved a failure. Danger of infection he attributes more to the immediate contact with the air exhaled by the tuberculous patient. Accordingly, rooms in which phthisical persons have lived, might safely be occupied by others, if only simple cleansing is properly attended to.

This thesis, however, was most vigorously contested by Dr. Cornet, in one of the last meetings of the Berlin Medical Society. He declared that the tests, as regards inhaling germ laden dust, were not conclusive, as the guinea pigs in question were cramped up in boxes and not placed under their ordinary conditions of life. In order to prove his theory, he put 41 guinea pigs in a closed room, some quite at liberty, others on shelves at various distances from the floor. Then, having well guarded himself in a long coat and masking and muffling up his face, he raised a great dust by forcibly brushing and beating out a piece of carpet on which a certain amount of tuberculous sputum had previously been allowed to dry. Of all the animals only one escaped infection, and the danger of the experiment was further evinced by the fact that Dr. Cornet subsequently found the secretion from his nose to produce tuberculosis on being injected into a guinea pig. It is hardly probable that these proceedings will be repeated very shortly, unless, perhaps, some one already suffering from phthisis might be found willing to incur the risk of a little extra infection; so the question is not likely to be decided very soon, and in the meantime it will be best to keep on the safe side

As to the therapeutics of tuberculosis, there abounds, just now, quite a superfluity of suggestions. Apart from the sanitarium treatment, to which steadily increasing attention is paid, of internal remedies creasotal seems likely to become a favorite, chiefly on the strength of the favorable reports from Leyden's clinic. Behring has just published a paper on researches he has carried out for preparing an antitoxine. The statistics published on the results of treating diphtheria with Behring's remedy, have been so eminently satisfactory that this latest communication has been received with lively interest, in spite of all the disappointment attendant on Koch's tuberculin and Tr The new remedy, also an extract from the bacilli, obtained at high temperature and under exclusion of air, is claimed to be 80 to 100 times more active than tuberculin. As yet, however, it is not applicable to human beings on account of certain secondary effects, which the Professor hopes to be able to eliminate by means of certain improvements still under consideration. Bovine tuberculosis, however, is asserted to have been perfectly cured by the administration of gradually increasing doses of the remedy.

Another invention of more immediate practical value is announced by Professor Finkler, of Rome, viz.; artificial albumin, or, as he calls it, "tropon." By means of certain chemical procedures he has obtained from various articles of food, from fish, the refuse of meat used for the various extracts, from peas, beans, etc., a perfectly pure and tasteless product, which can be employed in all kinds of cookery. By the generous pecuniary assistance of Count Douglas, a noted philanthropist and parliamentarian, the manufacture of tropon has now been commenced on a large scale, and the selling price ($1 per kilogramme), is so low that in this way the same amount of nutriment can be obttained for half the price that meat would cost. Being very easily digestible, it is hoped that it will prove of great value both to invalids and as a staple article of food, especially for the working classes. If the expectations entertained of it hold good it will indeed be a great achievement.

The importance of providing the people with wholesome articles of food, in its widest sense, is instanced *per contra* by observations made on the increasing vice of using ether as a stimulant, which for the last few years has made rapid progress among the peasantry of our Baltic provinces. Since 1887, when the tax on spirits was raised, the demand for ether has grown enormously. As a litre of the latter is far more effective in producing intoxication than the former, and besides costs a little less, the attraction it possesses can well be understood. Not only men, but women, and even children, have taken to the habit, to their most serious detriment both in health, pocket, and mental faculties. The only remedy will be to place the sale of ether under the strictest control.

Another affair which has caused much painful excitement and raised quite a turmoil even in the daily press, was lately terminated in the law courts of the city of Brunswick. In outline the story may be told as follows: Some two years ago the head surgeon of the hospital, Professor Hermann Seidel, was suddenly suspended from his duties by the governmental authorities in consequence of certain accusations lodged against him, and chiefly emanating from his assistants. On being informed of the charges entered against him, he replied that he could very well refute all these accusations. But the matter seems to have so preyed upon his mind that he committed suicide by taking morphine immediately afterwards. In a letter to his brothers he gave his reasons to the effect that, even if acquitted at the pending law suit, his future would be irreparably blasted. Further, he begged them to vindicate his aggrieved honor to the utmost of their power. The brothers, one a well known author, the other an art critic and custodian of the Royal collections at Potsdam, asked Bergmann and several other leading surgeons for their opinion on the case. Their replies, on being informed of all the details, were unanimously to the effect that no reasonable charge could be adduced against the deceased, whom they all held in high esteem. These answers having been printed and published by the Seidels, proceedings were entered against them for libel by the government of the Dukedom of Brunnoth, the assistants in question also joining in as co-plaintiffs. At the trial, however, the defendants, who were eventually acquitted, had altogether a much better position than the plaintiffs, on whose mode of proceeding many severe strictures were passed. The matter has throughout been a sad one, and we all hope that the appeal that has been made to the higher Court will be promptly and finally dismissed.

An exceedingly dangerous though happily rare disorder, premature loosening of the placenta, was demonstrated by Prof. Dührssen at one of the last medical meetings at Berlin. In the case described the patient, a multipara, awoke early one morning with severe pains in the abdomen. A physician called a few hours later, found her in a very serious state and advised further assistance. Dührssen on arriving found the following symptoms: The patient was exceedingly pale and in a fainting condition, the pulse being scarcely perceptible, the uterus enormously distended, far more so than corresponded to the patient's statement of being at the eighth month of pregnancy; fetal heart tones imperceptible; head within the brim of the pelvis; in the vagina merely traces of blood; the os tincæ dilated to the size of about a dollar. The above diagnosis having been found, immediate delivery was decided upon. As the fetus was evidently dead the head was perforated and delivery by cranio-traction accomplished as speedily as possible. The quantity of blood clot in the uterus amounted to the size of a man's head; it had burrowed its way in between the walls of the uterus and the placenta and into the tissues of this latter. The woman rallied from the shock and was doing well on the sixth day, when last reported. Such a favorable result is, however, comparatively infrequent. In a series of 106 observations collected by Goodell, the event proved fatal to the mother in 54 cases, while of the children only 6 survived. The only feasible treatment is, of course, prompt delivery; in some cases dilatation of the os uteri by means of a colpeurynter will be called for, in some cesarean section, preferably the vaginal method will be indicated.

The Bishop of Augsburg, to whose diocese the village of Wörishofen, where Kneipp lived and labored, belongs, has addressed a pastoral letter to his clergy, enjoining them to refrain from dabbling in matters medical, to which these reverend gentlemen seem at present remarkably to incline. By thus abstaining, he tells, them, they will increase the respect in which they are themselves held and fulfil ther clerical duties the better, besides avoiding to clash with the "highly to be esteemed members of the medical profession." Truly, a man wise in his generation.

May 15, 1898.

REVIEWS AND NOTICES.

THE PSYCHOLOGY OF SUGGESTION; a Research into the Subconscious Nature of Man and Society. By Boris Sidis, M.A., Ph.D., Associate in Psychology at the Pathological Institute of the New York State Hospitals. With an introduction by Prof. William James, of Harvard University. New York: D. Appleton & Co.; pp. 386.

Under the above title Dr. Sidis, Associate in Psychology at the Pathological Institute of the New York State Hospital, presents to the reader a very interesting and original treatise, dealing with psychological investigations into subconsciousness and its relations to normal and abnormal suggestion and suggestibility. The author first tries to prove by careful experiments the existence of normal suggestibility, and to establish the law governing this, showing that suggestibility of waking persons follows a law which contrasts with the law governing hypnotic individuals In the second part of the book, he studies subconsciousness and its relations to the normal consciousness, and describes a very interesting pathological case of double consciousness, or individuality, which he claims to have restored mentally by means of a certain method of cure, which he promises to give in a future State Hospital's Bulletin. The third and last part takes up social suggestibility, mental epidemics, revivals, witchcraft, financial crazes, etc. The book is systematically and lucidly written. The author quotes extensively from leading writers on hypnosis, as Liegeois, Liebant, Bernheim, and others. While he may be justified in expecting his readers to understand quotations in the original from German, there seems little reason (as in the quotations from Bernheim) for citing in one place from the original and in the other from a translation.

A CLINICAL TEXT-BOOK OF SURGICAL DIAGNOSIS AND TREATMENT FOR PRACTITIONERS AND STUDENTS OF SURGERY AND MEDICINE. By J. W. Macdonald, M.D , Graduate in Medicine of the University of Edinburgh, Professor of the Practice of Surgery and of Clinical Surgery in Hamlin University, Minneapolis, etc. With 328 illustrations. Philadelphia: W. B. Saunders. pp. 798. Price, cloth, $5.00; half Morocco, $6.00, net.

Under the above comprehensive title we have a single volume of nearly eight hundred pages. In general appearance it gives evidence of comprehensive treatment and careful preparation. Its table of contents includes every department of modern surgery, and, so far as the space admits, the subject matter is well brought out in detail. It will be inferred that much of historical and statistical matter is omitted and clearness in many of the discriptive portions has been sacrificed in the interest of brevity. The illustrations are all fairly good and many are exceptional for their clearness. The work would perhaps have been more acceptable and useful had the author contented himself within narrower limits and omitted those portions which have been treated ably and more comprehensively by those possessed of the authority conferred by specialism. This is peculiarly true of the chapters treating upon gynecological surgery. In spite of all this it must be said that the work possessess merit and will be found available for both student and practitioner.

PATHOLOGICAL TECHNIQUE, a practical manual for the pathological laboratory. By Frank Burr Mallory, A.M., M.D., Assistant Professor of Pathology, Harvard University Medical School; Assistant Pathologist to the Boston City Hospital, etc., and James Homer Wright, A.M.. M.D., Director of the Laboratory of the Massachusetts Instructor in Pathology, Harvard University Medical School.. With 105 illustrations. Philadelphia: W. B. Saunders. pp. 398. Price, $2.50.

In the days of Rokitansky and Virchow a *post-mortem* examination was concerned with gross pathological anatomy—the location of visible lesions of tumors, etc., the estimation of the extent and the character of inflammatory processes. The later microscopical examination was likewise essentially anatomical. Chemical analysis of body contents was one step in a different direction, but of value chiefly from a medico-legal standpoint. The discovery of the bacterial origin of disease has immensely widened the field of investigation, and to-day a *post-mortem* examination is neither complete nor satisfactory unless it includes a determination of the bacterial origin of the lesions found. The mystery of a death may remain utterly unsolved until in the blood, in the brain, in the kidneys, or in the liver, some definite germ, animal or vegetable, be found to explain it. To determine the cause of death is but a small part of the value of competent *post mortem* examination. It is fundamental in medical education, and essential to progress in medical science. On the *technique* of *post-mortem* examinations from an anatomical standpoint there has been no dearth of good text-books. Of these the widest known is that of Virchow, which has gone through many editions. Then in general bacteriology and histological *technique* there are several excellent text-books. But this enlarged field, including the practical parts of all three departments, has been quite unoccupied. In this volume of about 400 pages the authors have gathered together in exceedingly happy form the various facts, principles, and methods of investigation by which satisfactory *post-mortem* examinations can be made, and have brought the *technique* in these rapidly growing departments of medicine quite up to date. They have produced an eminently practical book. The arrangement is excellent. The material is divided into three natural divisions: (1) Anatomical. (2) Bacteriological. (3) Histological. The first is a brief description of classical methods of making the section of the cadaver, and comprises this greater part of the material found in Virchow's little book and that of Naumeck, besides more or less original material of the authors. The second part includes the descriptions of methods of obtaining bacteriological material, of preparing culture media, of making cultures, etc., together with a concise and clear description of a large number of pathogenic and saprophytic bacteria, and methods of inoculating animals for experimental purposes. The third division contains descriptions of simple and efficient apparatus, of methods of preserving, fixing, embedding tissue, of cutting sections and methods of staining for a great variety of purposes, are particularly described. The authors deserve great credit for the clearness of their descriptions, and for getting together so great a mass of valuable material, and for putting it in so readable a form. They show by their style that they are practical teachers. The book is designed as a laboratory manual, and as such is eminently successful, but its field is considerably wider, for its language and arrangement are such as to make much of it interesting reading for the practitioner who has little time for laboratory work.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held May 3, 1898, the following were granted certificates to practise medicine in this State:

F. Spaulding Abbott, San Jose; Berkshire Med. Coll., Mass., Oct. 8,'66.
Ira A. Allen, Pasadena; Med. Dept. Univ. City of New York, Mar. 6,'88.
Thos. A. Booker, Selma; Med Dept. Vanderbilt Univ., Tenn., Mar. 30,'98.
Harry Ottis Collins, Paloma, Ill.; Keokuk Med. Coll., Iowa. Mar. 16,'97.
Chas. C Fitch, Visalia; Beaumont Hosp. Med. Coll., Mo., Mar. 20,'90.
Alexander I. Frazer, Norwalk; Coll. Med., Univ. Southern California, June 3,'97.
Benton F. Gentry, Stockton; Missouri Med. Coll., Mo., Mar. 24,'96.
John J. J. Hanmore, Oakland; Kentucky School of Med., Ky., June 30,'84.
Chas. E. Jones, San Francisco; Coll. Phys. and Surg., San Francisco, Cal., July 15,'97.
Sophie B. Kobicke, San Francisco; Coll. Phys. and Surg., San Francisco, Cal., July 15,'97.
Wm. W. McCormick, San Francisco; Med. Dept. Rocky Mountain Univ. (Gross Med. Coll.), Colo., Apr. 10,'88.
Chas D. Slagle, Pomona; Starling Med. Coll., Ohio, Mar. 25,'97.
Joseph W. Williams, Los Angeles; Cincinnati Coll. Med. and Surg., Ohio, Feb. 23,'78.

CHAS. C. WADSWORTH, Secretary.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific) from April 20, 1898, to May 20, 1898.

Acting Assistant Surgeon George H. Richardson, U. S. Army, will proceed to San Francisco, California, and report in person to the commanding general of the expedition to the Philippine Islands for duty.

Major William H. Corbusier, Surgeon, is relieved from duty at Angel Island, California, and assigned to duty as Acting Medical Purveyor of the expedition to the Philippine Islands.

Major Robert H. White, Surgeon, is relieved from duty at the Presidio of San Francisco, California, and will report in person to the commanding general of the expedition to the Philippine Islands for duty as Chief Surgeon.

Major Edward B. Moseley, Surgeon, is relieved from duty at Benicia Barracks, California, and ordered to Presidio of California, relieving Major Robert H. White, Surgeon.

Major Louis Brechemin, Surgeon, is relieved from duty at Fort Sherman, Idaho, and ordered to Vancouver Barracks, Washington, for duty, relieving Captain Frederick P. Reynolds, Assistant Surgeon.

Captain Reynolds, on being thus relieved, will repair to Washington, D. C., without delay, and report in person to the Surgeon General of the army for assignment to duty.

First Lieutenant William E. Richards, Assistant Surgeon, is relieved from duty at Fort Apache, Arizona, to take effect upon the arrival at that post of Capt. Edward Everts, Assistant Surgeon, and will report in person to Major General John R. Brooke, commanding Camp George H. Thomas, Chickamauga National Park, for duty with troops in the field.

Captain Leonard Wood, Assistant Surgeon, is relieved from duty in Washington, D. C., and will proceed to the following named places, in the order designated, for duty in connection with the recruitment of a regiment of mounted riflemen to be organized under Section 7 of an Act of Congress approved April 22, 1898: Phoenix, Arizona Territory; Carson City, Nevada; Salt Lake City, Utah; Boise City, Idaho.

Colonel Charles R. Greenleaf, Assistant Surgeon General, will transfer his duties pertaining to the Medical Supply Depot at San Francisco, California, to Lieutenat Colonel Johnson V. D. Middleton, Deputy Surgeon General, Chief Surgeon Department of California, who will perform them in addition to his present duties, and will also perform the duties of Chief Surgeon, Department of the Columbia, during the remainder of the absence on leave of Lieutenant Colonel William D. Wolverton, Deputy Surgeon General.

Major John Van R. Hoff, Surgeon, is relieved from duty at Vancouver Barracks, Washington, and from temporary charge of the office of Chief Surgeon, Department of the Columbia.

Colonel Greenleaf and Major Hoff will repair to Washington, D. C., and report in person to the Commanding General of the army for duty.

Par. 1, S. O. 35, c. s, from these headquarters, is so far modified as to direct Major Edward B. Moseley, Surgeon, now at Benicia Barracks, to proceed to San Francisco, California, for temporary duty as assistant to the Chief Surgeon of the Department in the duties of Attending Surgeon in San Francisco and, if necessary, attending the sick at Fort Mason, California, during the absence of Captain Charles M. Gandy, Assistant Surgeon. Whilst in the performance of these duties Major Moseley will take station in San Francisco. Par. 1, S. O. 37, Dept. of Cal., April 22, 1898.

Upon the recommendation of the Chief Surgeon of the Department, Major William H. Corbusier, Surgeon, will, in addition to his present duties, render medical attendance to the garrison at Fort Baker, California. Par. 3, S. O. 39, Dept. of Cal., April 27, 1898.

Upon the recommendation of the Chief Surgeon of the Department, Captain Isaac P. Ware Assistant Surgeon, will proceed from Benicia Barracks to the camp near Fort Winfield Scott, California, reporting upon arrival to Colonel Marcus P Miller, 3d Artillery, for temporary duty with the troops in that camp. Par. 2, S. O. 40, Dept. of Cal., April 29, 1898.

Upon the recommendation of the Chief Surgeon of the Department, Major William H. Corbusier, Surgeon, and Captain Harlan E. McVay, Assistant Surgeon, will, in addition to their present duties, report at 10 A M daily to Major Edward B. Moseley, Surgeon, at these headquarters, for duty in examining recruits. Par. 1, S. O. 44, Dept. of Cal., May 11, 1898.

Upon the recommendation of the Chief Surgeon, Major Edward B. Moseley, Surgeon, will, in addition to his other duties, examine recruits at these headquarters for the 3d U. S. Artillery. Par. 2, S O. 43, Dept. of Cal., May 9, 1898

Major William D McCarthy, Surgeon, California U. S. Volunteers, is, until further orders, designated as the Brigade Surgeon of the Volunteer troops encamped at the Presidio of San Francisco. The entire medical service and supplies of the camp are placed under his direction, subject to Army Regulations. Par. 2, S. O. 47, Dept of Cal., May 14, 1898.

Upon the recommendation of the Chief Surgeon, Captain Harlan E. McVay, Assistant Surgeon, is relieved from his present duties, and he will report to Chief Surgeon of the Expedition to the Philippine Islands for assignment to duty. Par. 5, S. O. 50, Dept. of Cal.; May 19, 1898.

Upon the recommendation of the Chief Surgeon, Captain Isaac P. Ware, Assistant Surgeon, will, in addition to his present duties, report at 10 A.M. daily at these headquarters, for duty in examining recruits. Par. 1, S. O. 51, Dept. of Cal., May 20, 1898.

Official List of Changes in the Medical Department U. S. Navy (Pacific Station) from April 20, 1898, to May 20, 1898.

Assistant Surgeon J. C. Pryor detached from Naval Hospital, Mare Island, Cal., and ordered to "Albatross."

Past Assistant Surgeon A. Farenholt detached from R. S. "Independence" and ordered to Naval Hospital, Mare Island, Cal.

Past Assistant Surgeon A. Farenholt detached from Naval Hospital, Mare Island, and ordered to the "Charleston."

Surgeon F. Rogers ordered to the "Charleston."

Surgeon H. T. Percy from the "Monterey" to the "Charleston."

Surgeon F. Rogers from the "Charleston" to the "Monterey"

ITEMS.

Dr. S. E. D. Pinninger has removed from Cortez to Reno, Nev.

Dr. Edmund J. Overend has removed from 305 Larkin street, San Francisco, to Central Bank Building, Oakland, Cal.

Dr. Albert Abrams, whose departure we announced about six months ago, after having made a tour of the world, has returned, and will resume practice at 784 Geary Street, San Francisco, Cal.